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THE VALORISATION OF COFFEE IN BRAZIL



COMMISSARIAT GÉNÉRAL
OF THE STATE OF SAN PAULO
99, PLACE DE MEIR, ANVERS

1907

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IN BRAZIL

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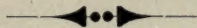


A LECTURE DELIVERED ON 29th JANUARY 1907
BEFORE THE MEMBERS OF THE ANTWERP SOCIETY
FOR THE STUDY OF COLONIAL QUESTIONS

BY

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1907



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AUTHOR'S PREFACE

The Antwerp Society for the Study of Colonial questions, having asked me through Messrs Georlette and Lalière, two eminent professors at the « Institut Supérieur de Commerce d'Anvers », to lecture before its members on the Valorisation of coffee in Brazil — a question of undoubted importance. — I hesitated, hardly knowing whether I ought to accept the invitation, as I have not a sufficiently fluent command of the French language to adventure the criticism of a select audience of the Society's members.

Assured however that a simple exposition of a subject so essentially interesting to Belgium, and more especially to Antwerp, would be sufficient, and that a dissertation highly literary in nature was neither requested nor expected, I had pleasure in complying with the request conveyed to me by the above-named gentlemen.

When I arrived at San Paulo, the beautiful capital of the Brazilian State of the same name, about seventeen years ago, to take charge of a group of factories situated about an hour's railway journey from the city, the latter had approximately 80.000 inhabitants. The landlord of the hotel at which I stayed, who had attained the age of fifty, spent the whole of the day working in his office. Leaving the hotel sometimes at about five o'clock in the morning and returning about ten o'clock at night, I always found to my great astonishment « mine host » still at work.

One day I asked him if he was never tired.

« No », replied he, « and yet I also have an ill child who prevents me from obtaining my proper night's rest ».

« Then you must have an iron constitution ».

« Not at all, Sir », he answered, « I am just an ordinary man like yourself, but day and night I frequently take a small cup of this beverage you see here on my desk. It is not my constitution that you should admire, but the coffee ».

At the present moment the city of San Paulo has a population of 300.000 inhabitants. The landlord's child died two years ago ; but he himself is still alive and working, sustained always by his indispensable beverage-coffee.

F. FERREIRA RAMOS.

Antwerp, 29th January 1907.

THE VALORISATION OF COFFEE IN BRAZIL

Capital engaged in the production of Coffee and in its distribution. Cost price and selling price

Coffee is a product of first importance and of the highest utility. It attracts enormous sums of capital to the principal commercial centres of the globe, and represents immense wealth in producing-countries; more especially in Brazil. We believe ourselves modest in saying that more than ten, perhaps twelve, milliard francs are directly employed in the world's production and commerce of coffee, almost one third of which is invested in the import and export trade and obviously, three fourths in the production.

To give an idea of the capital absorbed in the coffee cultivation it suffices to note that in the State of San Paulo, which produces nearly half of the world's coffee (Brazil itself producing three-fourths), the capital employed is about one million seven hundred thousand contos, that is to say, almost four milliard francs.

If we rely upon this basis for the other producing countries, we easily reach a total of eight milliard francs for the whole world.

If, for the State of San Paulo, we deduct the cost of carriage, we may say that the value of the coffee plantations, including sheds for drying, factories with their engines for the preparation of coffee, dwelling-houses for

proprietors and workmen, pastures, gardens, etc., is not less than two and a half milliard francs at the present rates of fixed exchange.

This State, possessing six hundred million coffee trees, the sum named represents an average of four francs for each productive tree.

According to very careful observations made in the State of San Paulo, 50 kilogrammes of coffee are produced by about seventy plants. If we consider that each tree represents an average capital of four francs we shall see that the capital necessary to produce one million bags of coffee, each containing 60 kilogrammes, is not less than three hundred and thirty six million francs.

As mentioned above fifty kilogrammes of coffee is the product of the capital value of seventy plants, or 280 francs, (a little over £ 11 sterling). If we allow an interest of five per cent on this capital, and one per cent for depreciation, we may calculate sixteen francs approximately as a reasonable return which the capital invested should yield the planter.

Further, as the result of careful observations made in Brazil (*), it appears that the cost of production (cultivation, gathering, preparation, etc.) of fifty kilogrammes of marketable coffee, at present quotations, amounts to about 36 francs, (or £ 1 : 8 : 10). If to this we add 14 francs for all other necessary expenses incurred, either in Brazil or in Europe, that is to say export-duties in Brazil, carriage, insurance, warehousing, brokerage, etc., we obtain a sum of fifty francs as the cost price of fifty kilogrammes of coffee delivered at the consuming market. And if to this price we add the interest on the capital and the

(*) See papers on the subject by Mr. Laneuville (of Le Havre, France) and Mr. Augusto Ramos (of Brazil).

allowance for depreciation, already estimated at sixteen francs, we find that in reality the cost of 50 kilogrammes of coffee comes to sixty six francs before it reaches the European market.

In order therefore that the cultivation of coffee may be remunerative, the price should never be lower than sixty six francs per fifty kilos in average.

Unfortunately, for several years past, prices of coffee which during ten years had obtained an average of 97 francs per fifty kilos (occasionally even 130 francs) have fallen little by little to forty francs, and even lower, which variation in prices we have made clear in diagram N^r 1 page 10 (*).

The situation of the planter, in consequence of these very low prices, is most deplorable, and the question we are treating, becomes one of paramount interest not only to Brazil but equally to every country where coffee is consumed. For, if Brazil were to abandon the cultivation of this produce in consequence of the little remunerative prices obtained, the result would be disastrous.

The production in Brazil alone, as a matter of fact, follows the increase of consumption; and it is noticeable for the last thirty five years that *the yield in other producing countries has not increased even with the prices ruling higher than one hundred francs*. Thus Brazil is the only country that has kept pace with the increase in consumption, thanks to its soil and its climate, both essentially favourable to the production of coffee. This result is also due in part to the economical development of the country.

The diagram of the average production of Brazil and of

(*) In this diagram the cost price is estimated at 50 francs, the interest on capital and the allowance for depreciation not being included.

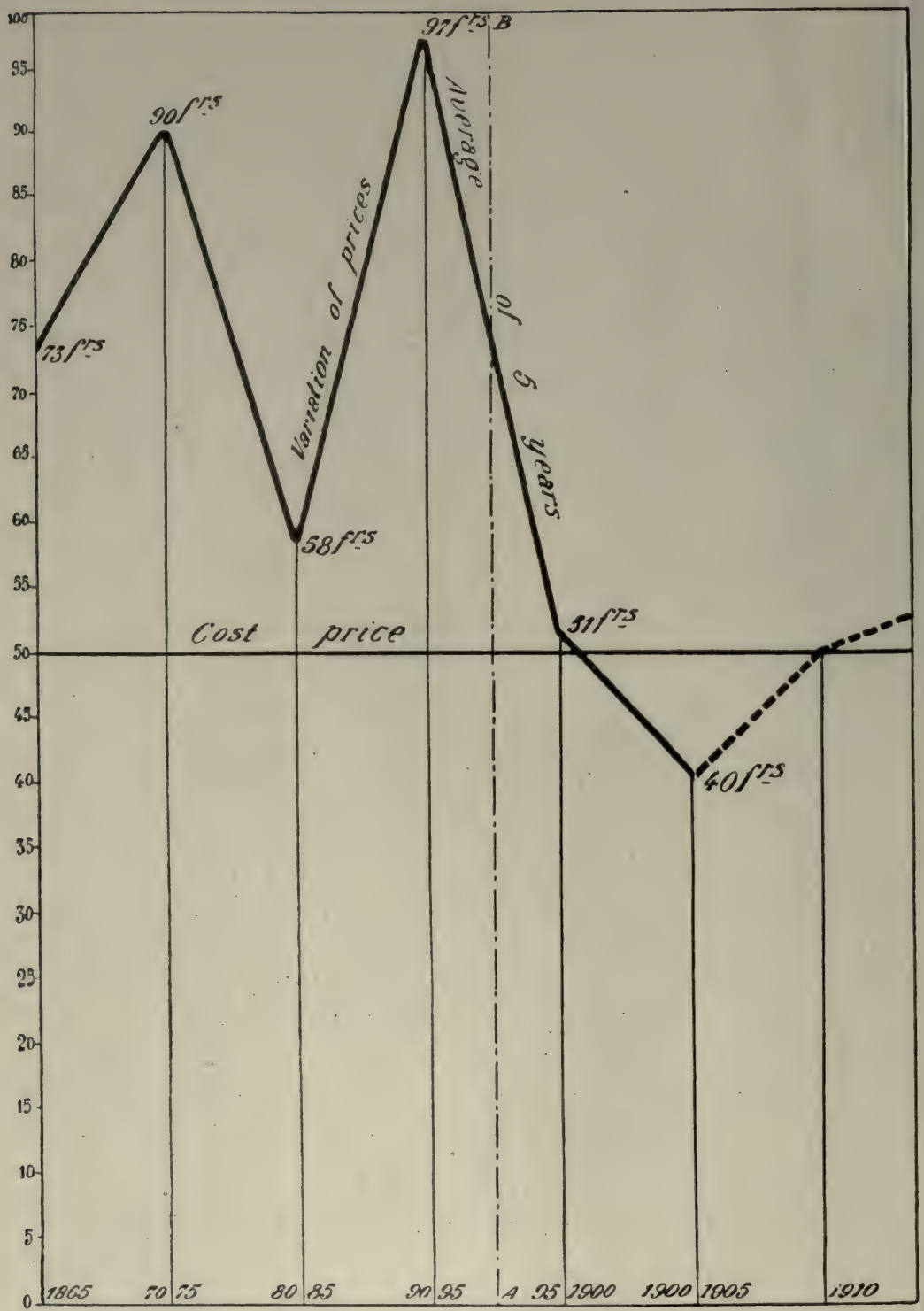


Diagram showing variation in prices.

other countries (Plate 2, page 12) clearly shows that Brazil alone has increased its production; the other countries showing rather a retrograde movement.

In order to be able better to realize that Brazil alone has increased its production, the indefatigable Secretary of Agriculture, Dr Carlos Botelho, representing the Government of the State of San Paulo, sent an expert — Professor Augusto Ramos — into the other producing countries to study both cultivation and production. The report presented by this gentleman confirms the statistics published by Mr. Laneuville of Havre and Mr. A. Siciliano in a treatise on the valorisation of coffee, which are to be found in a speech on the subject made by the Brazilian Minister of Finance, Dr. David Campista.

Another question arises conjointly with the increase of production, which clearly demonstrates the importance of the whole subject. It has been ascertained in San Paulo that in proportion to the development of coffee cultivation, the centres of production recede farther and farther away from the populous centres, and this naturally increases the cost of production. Surprised at this curious phenomenon, the learned Dr. Pereira Barretto exclaimed, « Coffee is a savage plant, which shrinks from the grand centres of civilisation ». As a matter of fact it is always found in the neighbourhood of large forests.

As we have just endeavoured to prove, the cultivation of coffee under present conditions, cannot be remunerative to the planter, who, if the situation remains the same, must abandon its cultivation altogether in favour of other products which will justly remunerate him for the capital and labour employed.

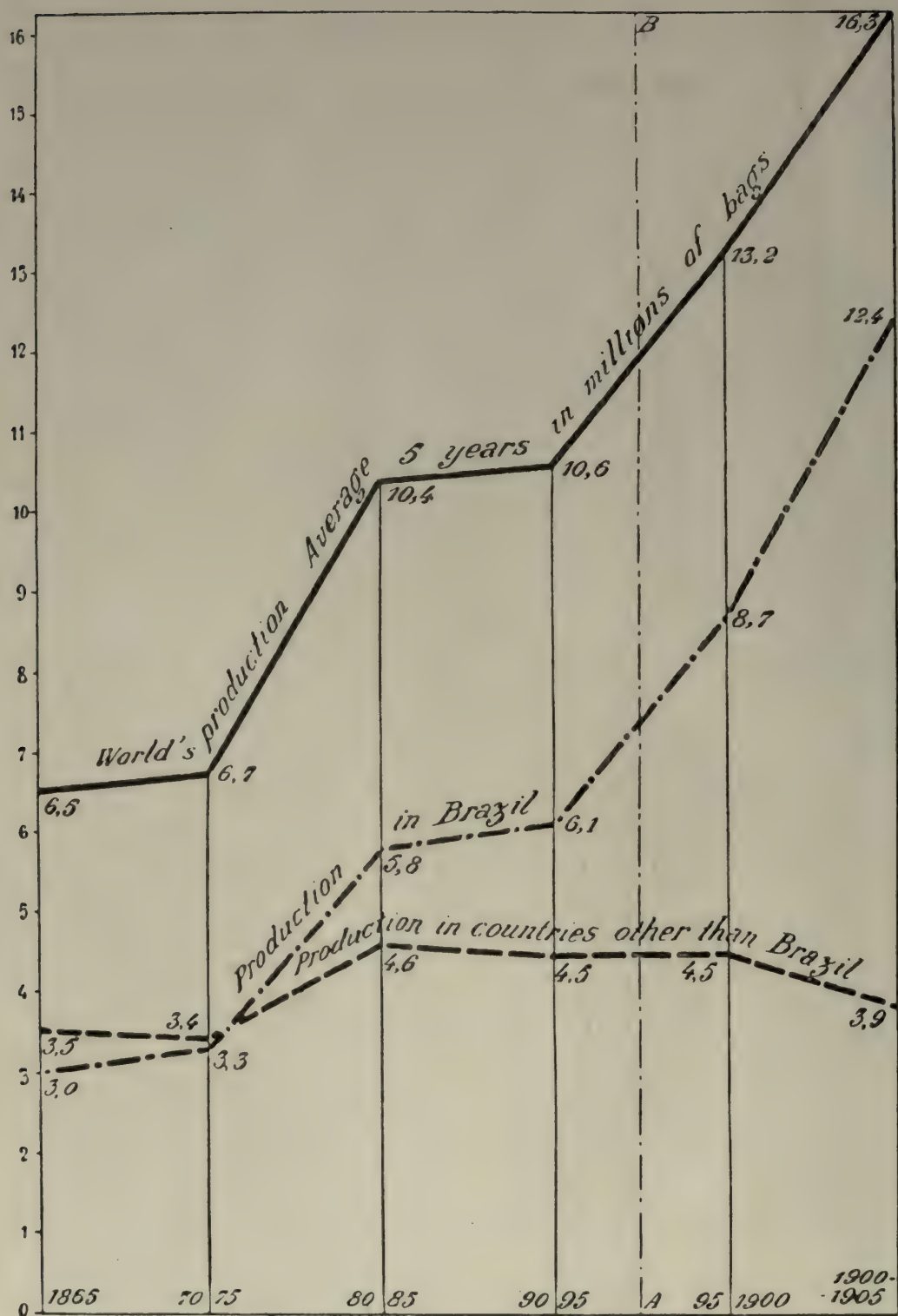


Diagram showing average production in Brazil and in other countries.

Measures taken by the State of San Paulo to diminish the production of coffee.

When prices first began to fall, and even when they were higher than the cost of production, no one imagined that the Brazilian States and the Federal Government would intervene to sustain the coffee planters in their struggles against such an unfavourable state of things. The planters, by their own means, endeavoured to reduce their working expenses as much as possible in order to lower the cost of production. They could not, however, materially cut down the wages of the workmen on the plantations, who would not have delayed abandoning the work altogether.

Later on, when prices fell lower and still lower, the Government of the State of San Paulo intervened, at the request of the planters themselves, with the object of limiting the development of the plantations and to regulate the production of coffee ; and passed a Law levying a prohibitive tax on the planting of fresh trees, to be in operation for a period of five years. We may safely assert that this Law was the salvation of many planters ; for, otherwise the production had certainly continued to increase more and more.

As a matter of fact, wide tracts of virgin soil still exist in the State of San Paulo, for, out of 1.855.000 hectares suitable for coffee cultivation, only 772.110 hectares were in the year 1902 devoted to it.

It is beyond doubt that without the restrictive Law there would have been a large increase of plantations, involving the ruin of those planters who were distant from the exporting centres ; and of those whose plantations, which either by reason of their age or other unfavourable circumstances, afforded but scanty and irregular crops.

The same Law also brought about an improvement of quality, and compelled planters to cultivate other produces such as cotton, sugar-cane, maize, rice, cocoa etc., of which we give illustrations in another part of this work. Already, in the State of San Paulo, these products have attained considerable importance.

With the object of diminishing the supply, before this Law was passed it was decided to withdraw from sale all coffee of an inferior quality.

Measures taken by Brazil to regulate prices

At the beginning of the year 1906, in spite of the beneficial influence of the Law mentioned, prices had reached such a low limit that the planters found themselves in a very precarious situation, which would have been rendered still worse by the extraordinary 1906-07 crop. The importance of the latter must be attributed to the exceptional conditions in the distribution of heat and rain.

What was to be done in face of these untoward, circumstances : leave the planter to himself, to his own resources, or accord him official support ?

Left to himself he would have been compelled to abandon the cultivation of coffee (*).

If it were a question of the cultivation of wheat, maize, tobacco, cotton, rice, sugar-cane, etc., the problem would not be so complicated, over-production being avoidable by simple abstinence from planting during a period of one or two years.

(*) It was known that the average production was lower than the consumption, and that an exceptionally heavy crop alone had produced this want of equilibrium for one or two years.

But such a course is not possible with the coffee tree, which — once planted — requires at least five or six years before producing its first regular crop. And during this period what care is demanded and what anxiety is engendered in the mind of the poor planter ! You must be a planter yourself and live in this immense « coffee ocean » during the rainy season or during the gathering of the fruit, in order to form an idea of the admirable work performed by those who produce the precious bean.

To reduce the production by a million bags it would necessitate, as we have already seen, the elimination of three hundred and thirty six million francs capital ! Should we allow such a large sum to be lost ? Should we abandon such a large part of the production ? Should we allow such a vast public fortune to disappear, never perhaps to be regained ?

We do not think so, since, once coffee-planting being abandoned it is very difficult to create a new plantation on the soil where other coffee trees have died.

Confronted by this situation, it was therefore difficult to leave the planter to his sad fate, and the only way of helping him was by the official intervention of the Government of the three Brazilian coffee producing States, having as their common object the discovery of some means of maintaining coffee at a remunerative price.

Had Brazil been a country possessing an abundance of capital, with sense of coöperation highly developed, the problem had long since been solved ; but there, with a population of 21.000.000 inhabitants scattered over an immense territory of eight million square kilometers, where the planters of the same State are at long distances from one another, it was impossible to solve this great problem without the support of the Government which intervened

with the object of serving as an intermediary between the capitalists and the planters.

Acting on this principle, a Convention or Treaty — known as the « *Convenio de Taubaté* » — was concluded between the three principal States interested, namely San Paulo, Rio de Janeiro and Minas Geraes.

« Convenio de Taubaté » or Agreement of the three Brazilian Coffee producing States

The Treaty of Taubaté signed by the presidents of the three Brazilian coffee producing States, in execution intended to maintain coffee at a certain value, or in other words to effect its valorisation, contains several clauses the principal of which we extract from the Review « France-Brésil » of the 31st March 1906.

« During a period of six years, which may be shortened or prolonged by mutual consent, the contracting States undertake to maintain on the national markets, during the first year, a minimum price of 50 or 60 francs gold (or in currency of the country at current rates of exchange) per bag of 60 kilogrammes (1 kg. = lbs 2,20485) type seven American, with power to increase this price to a maximum of 70 francs according to the state of the market. For the higher qualities, according to the same American classification, the prices indicated will be increased in a similar proportion during the same period.

» By means judged expedient the contracting governments have power to prohibit the export of coffee inferior to type 7, each one doing its best to ensure consumption of such coffee in the country itself.

» The contracting States undertake to organize and maintain a regular and permanent propaganda in favour of

coffee in order to increase its consumption, either in developing existing markets or in creating new markets in those countries where the consumption is but small or non-existent; or in combating as much as possible for the falsification and adulteration of the product.

» When they shall deem the moment opportune, the contracting Governments shall fix the types of the coffee of the country by facilitating the creation of an Exchange, or Central Syndicate, to regulate the trade. For those new types the prices shall be fixed in accordance with the basis above named.

» The contracting Governments shall do their best to give planters facilities to deliver coffees, for consumption, prepared as carefully as possible.

» The contracting Governments undertake to levy a surtax of three francs — subject to augmentation or diminution — on each bag of coffee which shall be exported by one or other of these States; and also to impose, for a period of at least two years, sufficiently high taxes to meet the case on all lands which in their respective territory shall be devoted to coffee cultivation.

» The proceeds of this taxation shall be received by the Union and employed to the payment of the interest and sinking fund of the capital necessary for the due and proper execution of the Convention. The available balance shall be devoted to the reimbursement of any expenses incurred in carrying out the terms of the same convention.

» The contracting States, so long as this Convention shall be in force, may not levy upon coffee any taxes other than those which actually exist together with those created by virtue of this agreement or convention.

» For the execution of this Convention the State of San Paulo is authorised to make a loan either at home or

abroad any sum, not exceeding £ 15.000.000 sterling, deemed necessary to carry out such agreement; such loan to be guaranteed by the surtax of 3 francs per bag, under the united responsibility of the three contracting States.

» The sum produced by this credit-transaction shall be exclusively devoted to the objects of the present agreement, and may not be diverted in favour of any other transaction whatsoever.

« If it becomes necessary that the Union endorse any such credit operations, the dispositions of Art. 2, N^r 10, of Law 1452, under date 30th December 1905 must be observed.

» Before definitely concluding the loan transactions, the State of San Paulo shall submit the clauses and conditions for the approval of the Union and of the three contracting States. The organization and management of the different services in connection with the Convention shall be confided to a commission of three members appointed by the contracting States, namely, one member for each State; and its President, who shall have the right to vote, shall be nominated by the State of San Paulo.

» The deliberations of this Commission shall be regulated by an absolute majority of votes. Each member shall have a substitute who shall replace him when unavoidably absent. The substitutes shall also be appointed by the contracting States.

» This Commission shall establish the various services and appoint the members of the staff necessary for the carrying out of the Convention, and further may delegate wholly or in part the execution of the contract to a national syndicate or association, subject to direct financial control.

» The headquarters of the Commission shall be established in the City of San Paulo, and the Government of

this State, as delegate of the others, shall undertake the direction of its proceedings.

» To carry out the different services of the Convention the Commission shall draw up regulations, which must be submitted to the approbation of the Government of San Paulo.

» The liabilities and advantages resulting from the Convention shall be shared by the contracting States proportionately to the amount of surtax imposed in each State.

» The contracting States recognise the President of the Republic as final arbitrator in any difficulties that may arise in the execution of the present Convention.

» This Convention to be in force immediately it shall have been ratified by the Presidents of the contracting States and approved by the President of the Republic. »

The « *Convenio de Taubaté* », having been subsequently subjected to certain modifications, was then approved by the Chamber of Deputies of Brazil.

The modifications in question were as follows :

« The Presidents of the States of Rio de Janeiro, Minas Geraes and San Paulo are agreed and resolved to modify the Convention of Taubaté in adding thereto the clauses following, which become ipso facto part and parcel of the said Convention.

1^o Article 1 of the Convention is replaced by the following :

« During the period of time to be deemed advisable the contracting States undertake to maintain on the home markets the minimum price of thirty two to thirty six thousand reis (*) per bag of sixty kilogrammes of coffee, type seven American, for the first year. This minimum

(*) At present rate of exchange 1000 reis equals 1.70 frs.

price may be ultimately raised to a maximum of forty thousand reis according to the market demand. In regard to superior qualities, in accordance with the same American classification the prices thus modified will be proportionately increased during the same period.

2° » If the loan transaction shall be successfully carried out without the endorsement or guarantee of the Union the surtax of three francs referred to in Article 7 of the said Convention shall be levied by the three States and the proceeds shall be kept in reserve to be applied conformably to the dispositions of Article 7.

3° » The levying of the surtax of three francs shall begin at the period indicated by the contracting States.

4° » Until such time as the Bank of emission and of Conversion shall be established and shall have commenced working, the States shall be at liberty to apply directly the proceeds of the loan to the valorisation of coffee.

5° » Before concluding the negotiations relative to the loan mentioned in Article 8 of the said Convention, the Government of San Paulo shall submit the terms and conditions to the examination and approbation of the Government of the other contracting States ; as well as to the Federal Government, in case the endorsement of the Union shall be given, in order to determine the responsibility of each one of the States in question.

6° » The present Convention shall be in force from and after the date of its approval according to the dispositions of N° 16, Art. 48 of the Constitution ».

When the modified Convention was presented for approval at the Brazilian Congress, the Deputy David Campista, reporter to the Financial Commission, brought before the Chamber of Deputies a scheme for founding an

Issue Fund and Conversion Fund, already approved by the same Commission (*).

The Intervention of the Brazilian States in the Question of the Valorisation of Coffee : what does it consist of ?

The official intervention of the Brazilian coffee producing States has for object to serve as intermediary between the capitalists and planters, in order to ensure a remunerative price for coffee.

The valorisation scheme adopted with this object consists, as we have already said, in levying an export duty of three francs per bag of sixty kilogrammes. With the proceeds of this tax the Government guarantees the interest and sinking fund necessary for the redemption of the loans, enabling it to purchase and withdraw from circulation a quantity of coffee sufficient to maintain quotations above cost price. The coffee thus purchased is then placed on « warrant » in the principal markets of the world, to be sold only when quotations are judged to be favourable, so that the planter may obtain a reasonable profit and thus not only avert ruin but, in addition, those extreme variations in the price which are always harmful to the consumer.

The scheme of valorisation likewise embraces propaganda to augment the consumption of coffee, but this consumption — although always growing — scarcely shows an average upward movement of more than three to four per cent annually (Diagram 3, page 22).

(*) Extracted from « France-Brésil » 31st Aug. 1906 : « The Convenio » has been approved by the Legislative Powers of Brazil and sanctioned by President Penna.

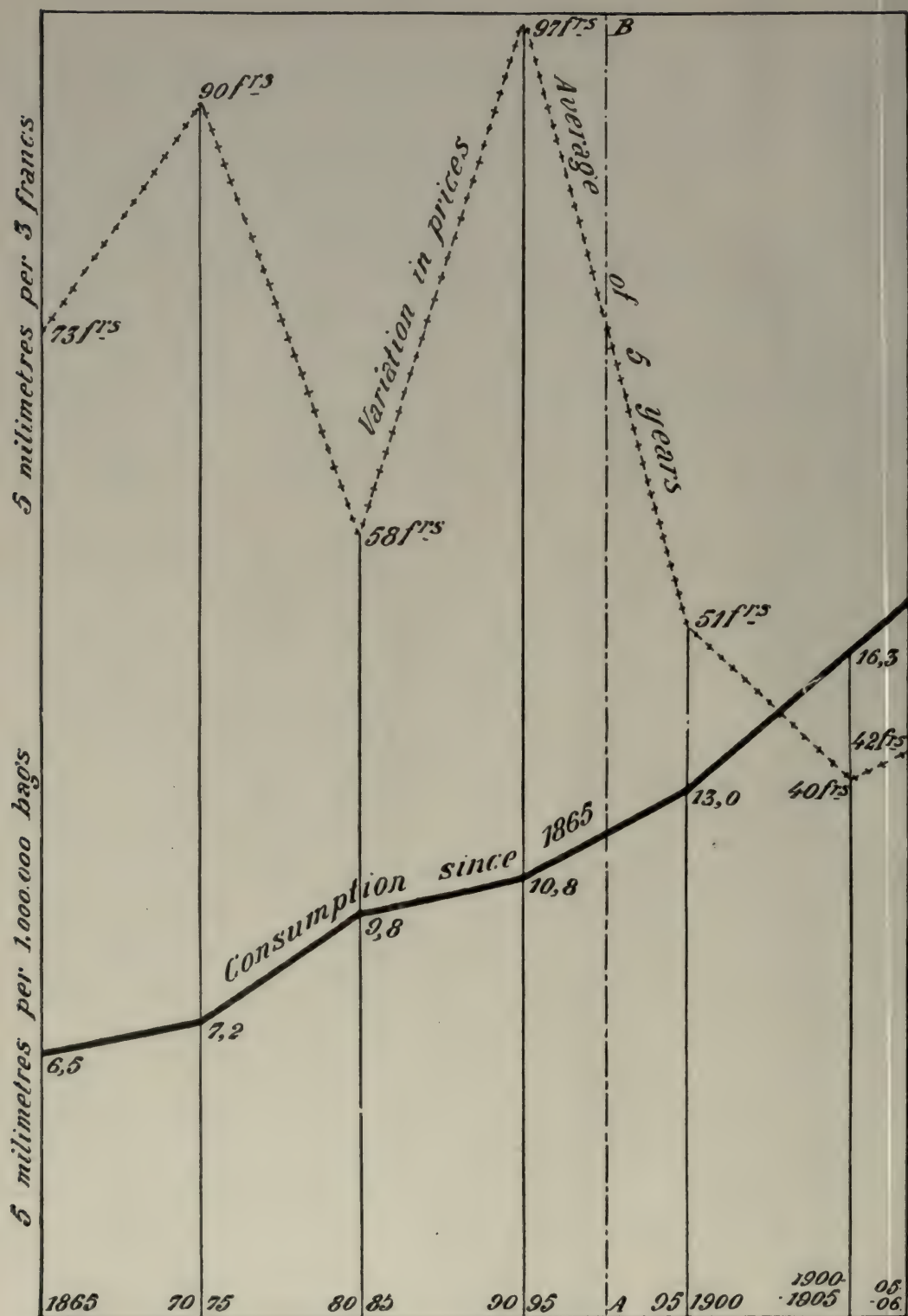


Diagram of the variation in the consumption and in the price of coffee.

Prior to the signature of the « Convention of Taubaté » the « Correio Paulistano » (*) a newspaper of the State of San Paulo, under the heading « Valorisation of Coffee », published the following article, reproduced in « France-Brésil » on the 31st December 1905 :

« The wealth of the State of San Paulo says the author of this article consists almost entirely in its agriculture. Not only does this give food supplies to a population of nearly 3.000.000 souls, but, by reason of the large sum of money which the export of coffee produces it contributes most materially to the revenue of the State and other Municipalities.

» In estimating 8.000.000 bags as the quantity of coffee produced by the State of San Paulo, this represents — at present prices. — a money value of 200.000 contos (**) or more than 340 million francs. The total revenue of the State is valued at 36.775.000 \$ 000 of which 21.420:000 \$ 000, or nearly two thirds are furnished by the tax on coffee. This same tax also returns more than 600:000 \$ 000 to the Municipalities (***) .

» It is therefore indispensable to remedy the crisis caused by the depreciation of coffee selling prices and to ensure that this product of such world-wide consumption should at least pay for the cost of its production and assure a means of living to the planter.

» The valorisation of coffee then becomes an object of paramount necessity. It must be accomplished, for it is inadmissible that a planter should ruin himself in cultivating a product which the world appreciates and consumes, and for which it pays much.

(*) The editor at that time was Dr Herculano de Freitas.

(**) A conto equals 1 700 frs at fixed rate of exchange.

(***) 36.775:000 \$ 000 is read as 36.775 contos or 36.775.000 thousand reis.

» What is the cause of this fall in the price of coffee? The excessive production, is the reply which we hear on all sides. This excess, if indeed it exists, has been caused by the exceptionally heavy crops in San Paulo a few years ago; but these phenomenal crops may not occur again. The high level of prices which coffee attained during a certain period led to an abuse in planting and brought on the market the enormous crops of which we have spoken.

» But the production of the old coffee trees in the State of San Paulo and of the neighbouring States has diminished, and large plantations established on unsuitable soil have been exhausted in the natural order of things.

» In addition to this, the destruction of vast forests has modified the rainfall and rendered the climate less favourable to coffee cultivation.

» It is also certain that San Paulo will not again see those abnormally large crops which have had so much influence on the fall in prices.

» How is it that, whereas quotations fell three years ago from 100 francs per 50 kilos to 30 francs, and to less than 50 francs today, the retail prices to the consumer remain practically stationary? It is truly astonishing that this excess of production has diminished the prices paid to the planter without in any way altering that, paid by the consumer.

» It is necessary to take action in the matter with as much promptitude as prudence, and to display real energy.

» It is evident, in fact, that the crops — as heavy as they were abnormal in the past years — will not be reproduced and, moreover, account must be taken of the increase in the consumption, amounting annually to some hundred thousand bags.

» Although, in starting from the hypothesis that the average production of coffee is inferior or at any rate

equal to the consumption, and that this production tends to decrease rather than to increase, it is indisputable that the « visible stock » will not delay reaching the normal quantity, and that the balance will lean in favour of the planter. As long as the tax on new plantations shall be in force, cultivation will remain stationary; and when the Government will allow fresh plantations to be made, these will only give a crop five years afterwards and would only replace those already exhausted. Everything therefore tends to the valorisation of coffee.

» If, in spite of the falling quotations, the consumer continues to pay very much for his coffee, and if in spite also of this the consumption of coffee increases, how much greater would have been this augmentation if the consumer had benefited by the fall of more than fifty per cent in the quotations? And this immobility in the retail prices proves indeed that coffee is not offered to the consumer in excess of the demand.

» This valorisation may be obtained either in increasing the export duties on coffee of low quality, or in destroying on the spot a portion of the coffee so as to avoid the transport charges and other costs. This valorisation will be besides brought on naturally by the increase of consumption.

» Is it possible to provoke a still larger increase in the consumption?

» Yes, by making coffee better known and appreciated, by the prosecution of falsification and by obtaining the imposition of lower custom duties in certain countries to which might be conceded some compensating tariff-concessions.

» With regard to a propaganda in favour of coffee, there are many means of effecting this; and there would be no objection if the government were to grant aid in the form

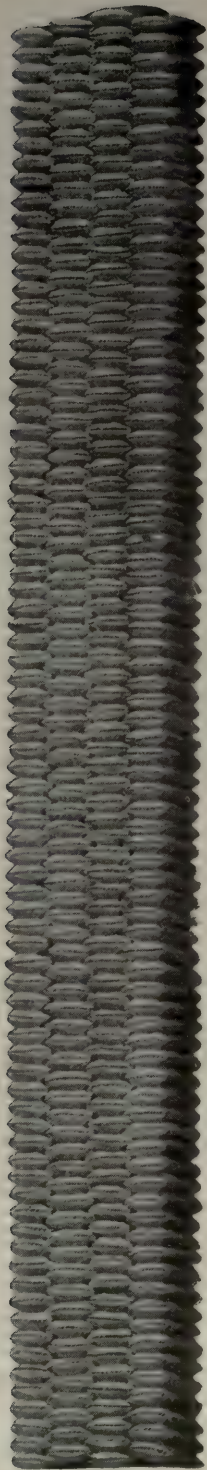
Coffee Exportation

THE 1901-1902 CROP

IN BAGS OF 60 KILOGRAMS

EACH BAG REPRESENTS

50.000 BAGS



BRAZIL
16.246.000 bags.

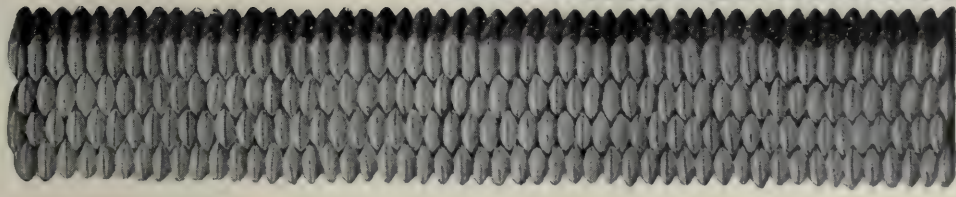


FOREIGN COUNTRIES
3.342.000 bags.

PLATE 4.

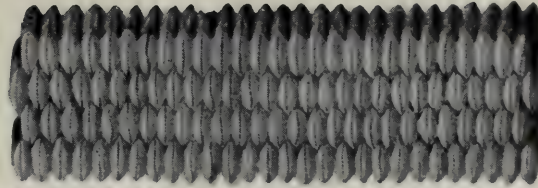
SANTOS

10.000.000 bags.



RIO

5.496.000 bags



Coffee Exportation

THE 1901-1902 CROP

IN BAGS OF 60 KILOGRAMS

EACH BAG REPRESENTS 50.000 BAGS

BAHIA and
VICTORIA
750.000 bags.



COLUMBIA
AND
CENT. AMERICA

1.150.000 bags



OTHER
COUNTRIES

517.000 bags.



JAVA

450.000 bags.



HAYTI

425.000 bags.



BRAZIL FOREIGN COUNTRIES

of premium or interest guarantees on capital employed, to those merchants or companies of standing and repute, who would become propagandists of the San Paulo coffee in those countries, Italy for instance, where the consumption is of trifling importance, or in England or Russia where the consumption is comparatively speaking equal to nothing.

» Such propaganda would be productive of substantial results and would largely compensate for the bounties thus granted.

» At present the coffee from San Paulo is cried down on the European markets by the coffee merchants themselves; that coming from Java, Porto Rico and Mocha alone being good! As the quantity of these coffees is very small, their interest is to raise quotations as much as possible and then to sell as genuine Java, Porto Rico or Mocha a similar coffee purchased at a low price in San Paulo ».

A sound propaganda will not only increase the consumption but will also establish the reputation deserved by the coffee grown in San Paulo, and the Government will be largely indemnified for the eventually sacrifices made.

As pointed out towards the end of this article, certain Brazilian coffees similar in appearance are sometimes sold under the name of Java and Mocha varieties. For this purpose the best quality Brazilian is naturally selected, whereas the inferior qualities are put on the market without any attempt at concealing their source of origin.

In order to demonstrate, that what we here state is not a question of mere imagination, it suffices to recall what we have ourselves observed during the St-Louis Exhibition of 1904. A Cookery College of a large city in the States wrote at that time to General Aguiar, Brazilian Commissioner General:

« In 1903, coffee to the extent of 20,000,000 lbs was

imported into the United-States of Northern America from Java and Mocha — the figures being 17 1/2 millions and 2 1/2 millions respectively. Beyond these quantities more than 500 million lbs of Brazilian coffee entered ».

During the year 1903, 500 million lbs of Java and Mocha Coffee were sold in the United-States, that is to say, about 450 millions more than the whole production of Java.

From where did this coffee come?

To be able to form an idea, it is enough to examine the illustrations (Plate 4 & 5, page 26 & 27), which represent the production in Brazil compared with other countries, the figures being based on the statistics drawn up by Mr Raul de Rezende Carvalho.

The total production of Java would not suffice for the consumption of Belgium and Holland and almost every time you ask for « good Mocha » you are served with « real Brazilian ».

Conjectures upon which the valorisation of coffee is based.

This question of valorisation has not been taken lightly in hand. It interests not only the planter, who has a right to be justly remunerated for his labour, but also the countries in which coffee is consumed. It is not then in reality a purely local question, but one of wide and general interest; for, if Brazil were obliged to abandon to any considerable extent the cultivation of coffee — to seek in some other produce the reward of labour — one could scarcely imagine what would be the price of coffee consequent upon the fact of the supply not keeping pace with the demand.

But let us return to the actual state of affairs and

examine what will occur after the heavy crop of this year. Therefor, we must first of all compare the production and consumption of the last few years. In consulting the diagram illustrating the average (*) statistics of these for the period 1899-1907 (Plate 6, page 31), we see that in 1901-02 the consumption of coffee reached 14.000.000 bags, whereas the world's crop for the same year exceeded this demand by about 8.000.000. bags.

Since then consumption has increased, and from 14 millions in 1901-02 has reached 17 millions in 1906-07. The crop gathered during the year 1906 and put on the market (crop 1906-07) may be estimated at 20 1/2 to 23 1/2 million bags. It will therefor only exceed, the consumption of the corresponding period by 3 1/2 to 6 1/2 million bags.

The stocks of coffee, which — before the crop of 1901-02 — were 6 million bags, rose after that year's crop to 14 million bags (6 existing plus 8); but, during the four following years (1902-03, 1903-04, 1904-05, 1905-06) the consumption exceeded production by about 5 million bags, so that stocks on 1st July last were only about 9 1/2 million bags. Prices had varied between 29 and 56 francs per 50 kilogrammes (**).

For the quinquennial period 1906-07 to 1910-11 we shall see the same phenomenon as that witnessed during the period 1901-02 to 1905-06.

The production of the period 1906-07 will not, as a matter of fact, be lower than 20 1/2 to 23 1/2 million bags, a figure comparable with that of 1901-02.

We do not in any way exaggerate the importance of the present crop. Everybody knows in fact that all circum-

(*) According to the supplies already to hand, we may estimate the world's supply to be from 20 1/2 to 23 1/2 million bags.

(**) See statistics prepared by Mr Laneuville, of Havre.

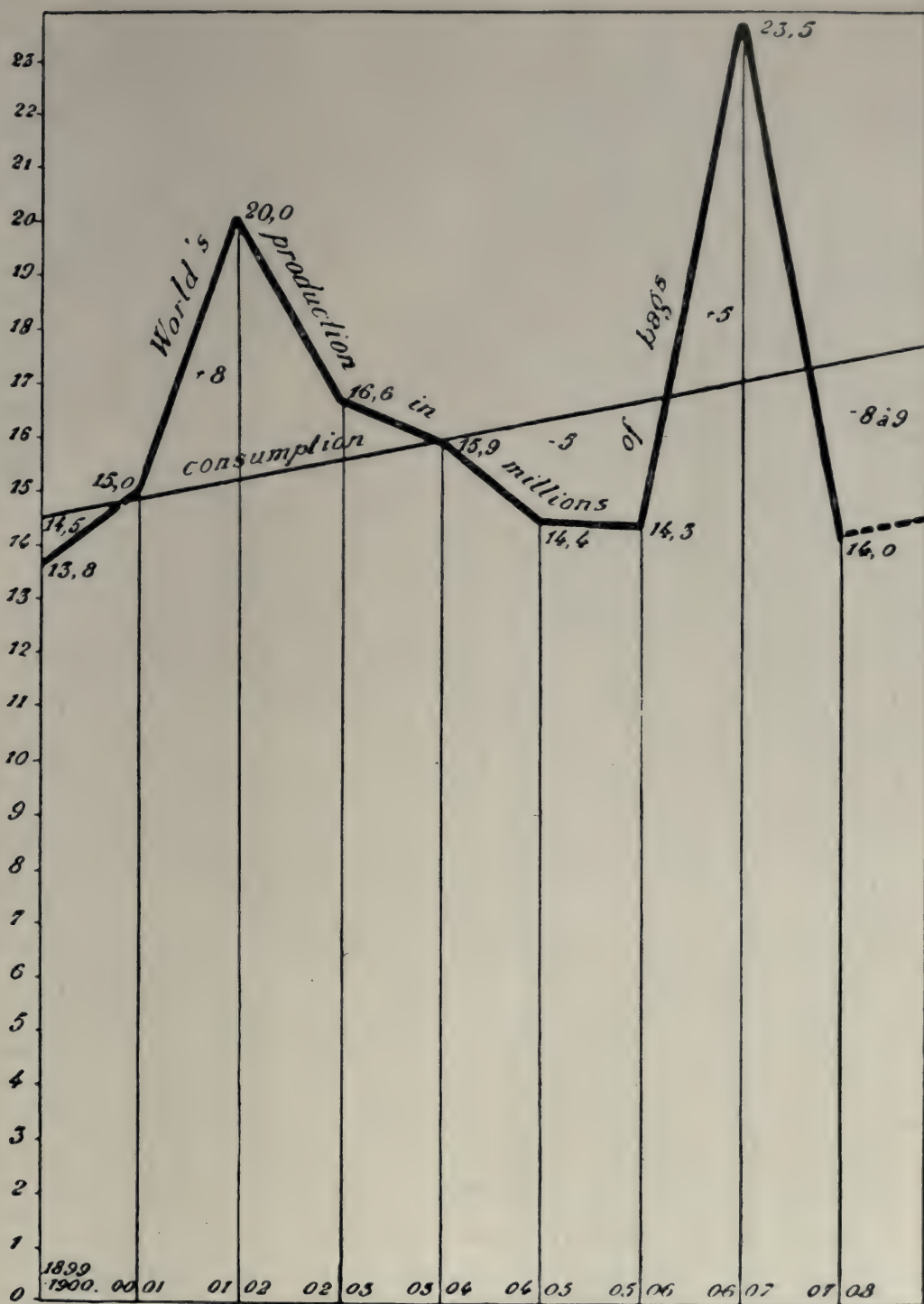


Diagram of the average production and consumption (1899-1907).

PLATE 6.

stances have been most favourable, and that all climatic conditions have cooperated to attain this result.

One may cast a doubt upon our contention and urge that the crop of 1906 was terminated before that of 1901, but it must not be forgotten that the railways now are better equiped for the transport of coffee (*). In proof of this it is sufficient to point out that the San Paulo Railway Company, running between Jundiahy and Santos, trough San Paulo, has doubled its lines of rails; that the Paulista line has nearly doubled the extent of its lines between Campinas and Jundiahy; and that the Mogyana and the Sorocabana, which were badly organised in 1901, now posses a very excellent service and dispose of a material (locomotives and trucks for merchandise), of much greater importance.

Further, the need for ready money has compelled planters to send their coffees with all possible despatch to Santos.

The crop of 1906-07 may then be compared to that of 1901-02.

Let us now show that the four coming crops (1907-08 to 1910-11) may, — in regard to their importance, — come very near to those four small crops which followed the unusual crop of 1901-02. Several reasons enable us to predict that the four next approaching crops will be rather weak.

In the first place, about four years ago, as we have already pointed out, a Law was passed which imposed a prohibitive tax on the planting of fresh coffee trees. As a consequence of this Law no further plantings, so to speak, have been subsequently made in San Paulo. In 1901-02

(*) For the railway system of today see further on map of the State of San Paulo.

there were about 685 million trees, 140 millions of which were too young to yield any fruit, being only from one to four years of age.

After the application of the Law the number of coffee trees was reduced, owing to various causes. First of all there were many which fell victims to heavy frost; many succumbed to drought; others again perished owing to want of proper cultivation, and lastly many of the old trees disappeared in the natural course of decay. It has been calculated that in six years, and for the reasons just stated, twelve per cent of the trees of 1901-02 no longer exist, which makes a decrease of two per cent annually. Consequently, for the years to follow one may only rely upon the production of about 600 million coffee trees.

During the four years which followed the crop of 1901-02 the average production of each tree in the State of San Paulo was about 720 grammes (*).

The figure for the four next crops seems to be rather exaggerated, and in support of this we refer to letters which we have received from well informed planters, and upon the Report of the Commission appointed by the Secretary of Agriculture for the State of San Paulo

(*) The « *Annuario d'Estatistica* » of the State of San Paulo, speaking of the 685 millions of fully grown coffee trees, whose 140 million young trees, says that these latter evidently represent twenty per cent of the total number of trees more than four years old. We venture to remark that these 140 millions of one to four years growth, correspond to an average annual increase of 35 million trees during the prosperous years, if indeed we do not take into account the disappearance of the old trees, their number being however not to be neglected. If thus we consider the increase of productive trees as 35 millions annually, and admit the yield of 750 grammes of coffee per tree, we perceive that the increase in the annual production (prior to the passing of the law) was of about 400 million bags, a figure which is lower than the average increase of the actual consumption.

together with the Agricultural Commissions of 170 districts, to estimate the coming crop, that of 1907-08. According to the well drawn up Report which we publish a supplement to this work, this crop will show a strong decrease in quantity.

This decrease must be ascribed to the exhaustion of the coffee trees, which have furnished just previously a bumper crop, and which besides have subsequently suffered from the effects of drought.

To establish our estimates of the four next crops we shall certainly not go beyond the truth in relying upon an average production of 720 grammes per tree. Knowing that 600 million full bearing trees actually exist, we reach a figure — for the State of San Paulo alone — showing an annual average production of 7 $\frac{1}{4}$ million bags.

The other Brazilian States and the other producing countries having rather a tendency to diminish their production, we may without fear of mistake adopt the preceding averages. That will give us then, for the four years of the period 1907-08 to 1910-11 a total of 59 $\frac{1}{2}$ million bags which, added to the 20 $\frac{1}{2}$ or 23 $\frac{1}{2}$ millions of the 1906-07 crop, will give a total of 83 million bags for the quinquennial production of 1906-1911.

Let us admit for the moment, although it is assuredly not the case, that the consumption does not increase and always remains at 17 $\frac{1}{2}$ million bags. We have then, for the period of five years 1906-1907 to 1910-1911 a consumption of 87 $\frac{1}{2}$ million bags, that is to say four or five million bags in excess of the production (see Plate 7, page 35).

The stocks which on the 1st of July last were 9 $\frac{1}{2}$ million bags will be reduced in 1911 to 4 or 5 millions.

Now, with a stock of about 7 millions and a consumption of 14 million bags, we have seen the price go up to 56 francs. Moreover, with stocks equivalent to 30 % of

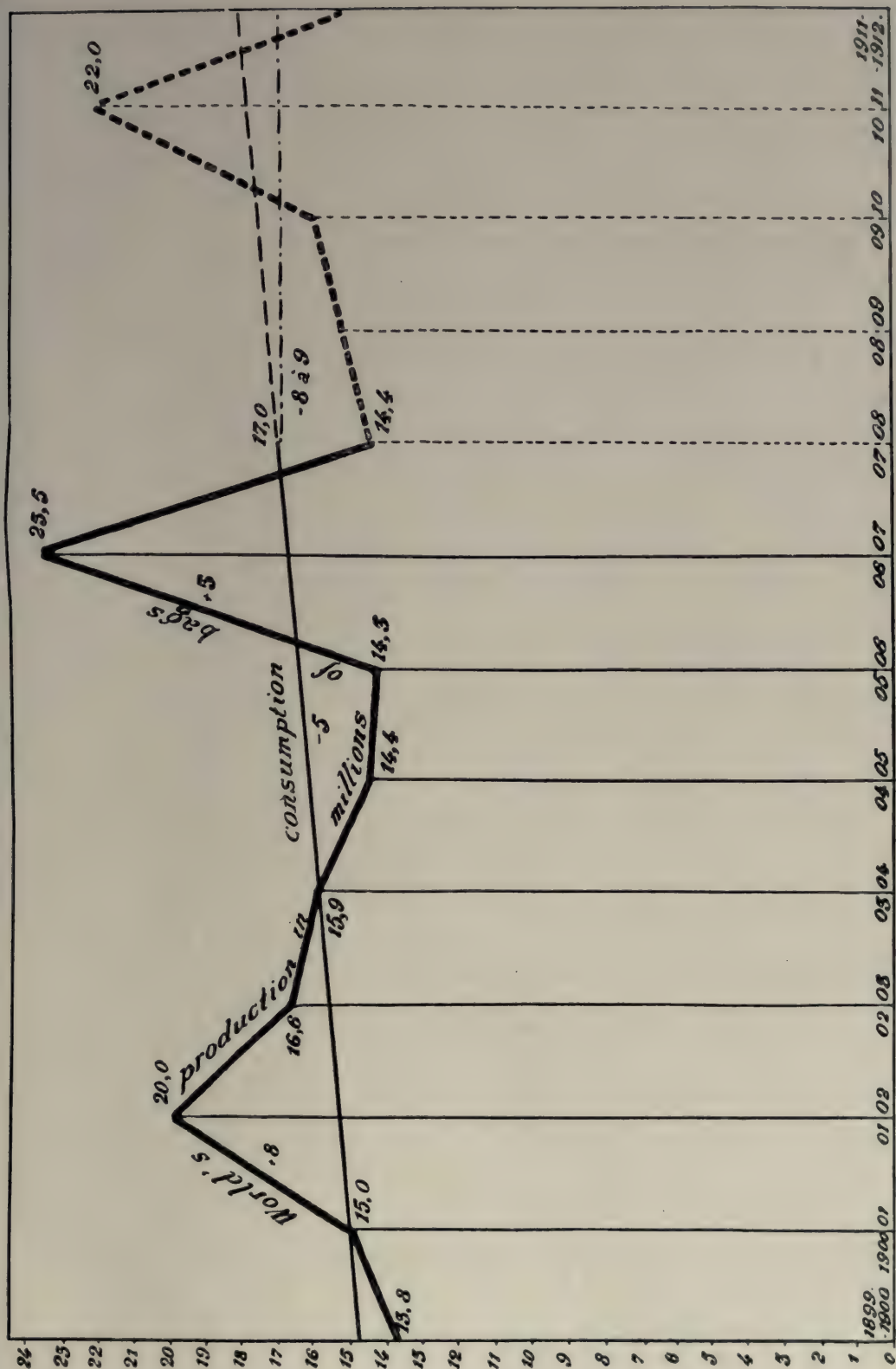


Diagram showing probable production and consumption.

the consumption the average prices in general have been 97 francs. It is, thus, evident that in 1911, with a stock of 4 or 5 millions and a consumption exceeding 17 1/2 millions the prices should unavoidably rise higher than the cost of production.

This fact established, the wisest measures to adopt — as was actually done in Brazil — would be to retire from the market a part of the actual surplus and to distribute it over the four next years, in the same way as the eight millions excess in 1901-02 were divided over the four years which followed that crop. It is therefore, if we accept the simile of an old story one year of « fat kine » followed by four years of « lean kine ».

We have tried to demonstrate that in 1911 stocks will be so small that the cost price will be readily exceeded by the selling price. We think that we are even within the truth, since in our calculation we have not taken into consideration the unforeseen circumstances which might diminish the importance of the four subsequent crops. A simple meteorological phenomenon, for instance a slight frost, a cold wind, an excess of temperature or a shower at the blossoming season would be sufficient to diminish the production. So that the figures we have adopted will have a tendency to be diminished rather than increased.

Relying on the conjectures indicated, the Governments of the coffee producing States, supported by the President of the Federal Government of Brazil and by the bulk of the people's representatives, have resolved upon the valorisation of coffee. In doing this they have no other object in view but the protection of the country's agriculture by assisting the coffee trade to withstand those extensive speculations which so often have an influence on prices, and are really prejudicial to the consumer.

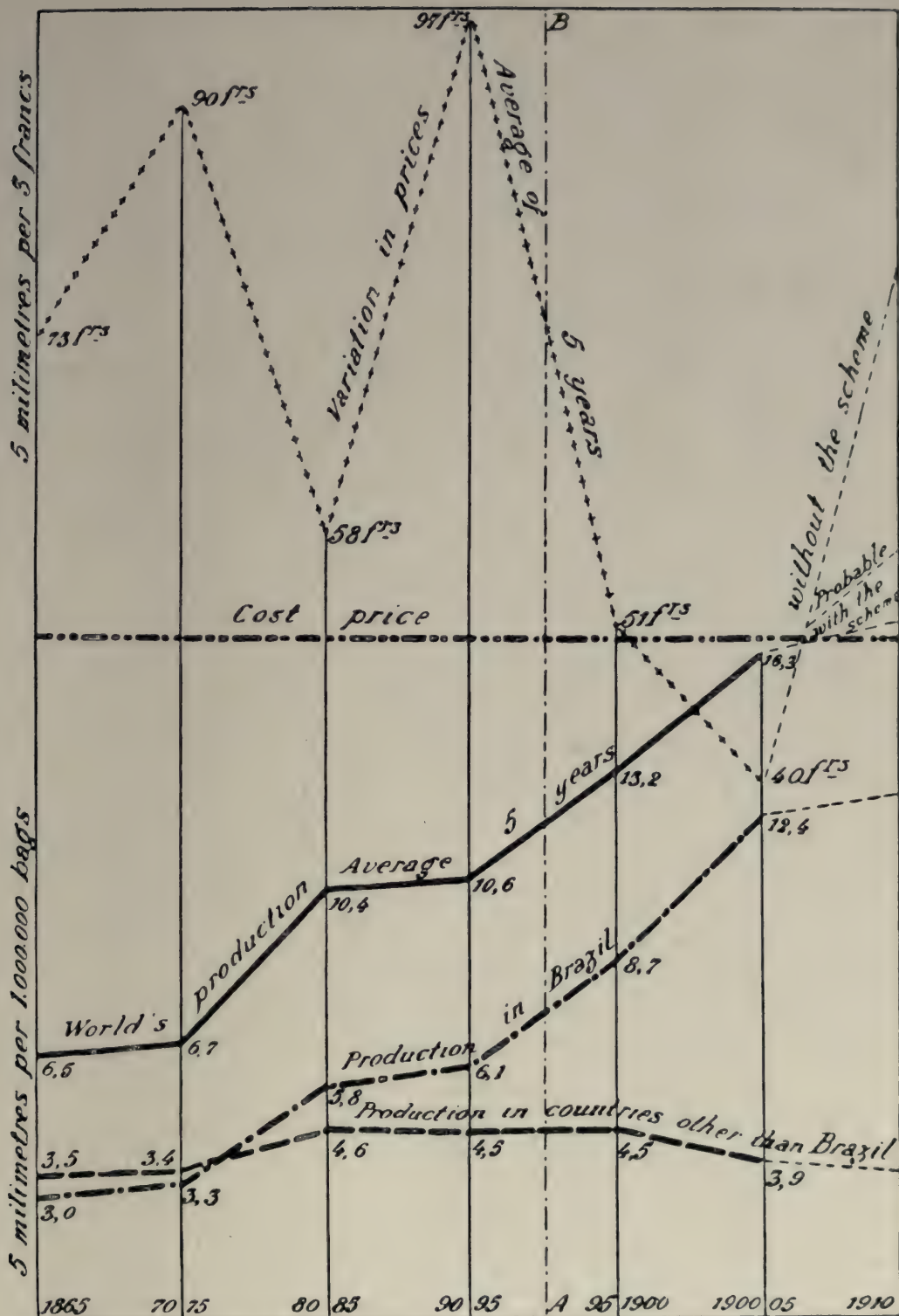


Diagram showing the average production of coffee in millions of bags and the variation in prices.

Valorisation has, besides, a tendency to level prices, and is not at all a Trust, as some people have endeavoured to convince us. The whole question has called forth a certain number of criticisms, but their authors have not taken into account some of the most important considerations affecting the subject.

Brazil really furnishes three fourths of the world's production of coffee; it is therefor in a position to dictate to the markets. This is more the case in as much as the other producing countries, even at prices three times higher than those actually obtained, could not increase their supplies to an appreciable extent; and, even supposing that they possessed the enormous capital and the labour necessary for such increased production, they would still be obliged to wait six years before the coffee trees yielded full crops. Added to this, the cultivation of coffee presents essential difficulties well shown in the series of photographs grouped in this work.

The success of coffee cultivation depends indeed upon the possession of suitable soil, of forests which have been cleared. The coffee tree is an exacting plant, not only in regard to climate and the qualities of the soil in which it grows but also in regard to the exposure of the ground.

Brazil is the only country in the whole world which can and does supply these exigences. It is only necessary to take a map and follow on it the isothermal lines in order to be convinced of this statement. One will see that there are indeed some small islands and some districts on the mainland where coffee may be produced, but the remainder of the regions comprised within the productive zones consists of deserts or of rocky lands, unsuitable and unhealthy.

Then again, for the successful cultivation of coffee one must be able to count upon sufficient labour for the

gathering of the crops, and of capital for the erection of drying sheds, factories and workmen's dwellings. One must be able to utilise waterways and railways for the transport of the coffee, and seaports properly equipped for loading the cargoes.

Coffee is not the sole produce of the State of San Paulo.

It may be useful to recall that the coffee tree is a very exacting plant not only in regard to climatic conditions but also respecting the quality of the soil. Appropriately, the State of San Paulo, although it may be regarded as the veritable cradle of coffee production, yet possesses certain districts which are unsuitable to the cultivation of this particular branch of agriculture, either owing to the nature of the soil or the climatic conditions.

Scattered here and there in that part of the State of San Paulo which is suitable for the cultivation, we nevertheless find tracts wholly unsuitable for coffee cultivation, together about 3 million hectares in extent.

Further, that part of the State which runs along the shores of the Atlantic Ocean is not adapted for the cultivation of coffee, which can only be carried on in this State below a certain altitude. It is a source of satisfaction therefore to know that the soil of the lands, whether on the coast or in the interior, where coffee cannot be cultivated, is admirably adapted for the cultivation of cotton, sugar-cane, tobacco, maize, cocoa, cereals and fruits and also for cattle rearing which may be advantageously carried on, as may be seen from the accompanying illustrations.

Eminent Brazilians who have taken up the question of valorisation of coffee.

In conclusion we can only congratulate ourselves that Brazil has consented to turn her attention to the valorisation of coffee, and we consider it a duty to reproduce in these pages the portraits of the Presidents and Ministers who have occupied themselves with the question. Among them it is only fitting that we should make special mention of M. Tibiriça, President of the State of San Paulo, who was the promoter of the Coffee Convention.

It is only right to observe that a special Committee was appointed to study this question. It was composed of the following gentlemen — Doctors A. Candido Rodrigues, Olavo Egydio de S. Aranha, A. Ramos, Ribeiro Junqueira, Rodrigues Caldas, and J. Barros Franco Junior. (*)

We must also add that the question of valorisation was carefully studied, from its very commencement, by the Paulista Agricultural Society of San Paulo (**) by the Agricultural Society of Rio, by the Senate and Chamber of Deputies of San Paulo, and especially by Senator Siqueira Campos, and the Deputies H. Freitas and Veiga Filho.

In the Chamber and Senate of Brazil, the principal speakers in the debate upon the question were M. David

(*) The planters had also appointed a commission to study the question ; of which, Messrs Faria and Jordão were members.

(**) The question has also been discussed at the various Agricultural Congresses : of these the one which was held at Rebeirão Preto must not be forgotten. It was organised by the Planters' Club of Batataes, the président of which was Dr. Machado, and the secretary Dr. Lara Fernandes.

Campista (deputy, and at present Finance Minister) and Senator Alfredo Ellis, etc.

*
* *

It will now be understood why my country has deemed it necessary to succour the coffee planters. For, if with our fertile soil, large rivers, verdant forests, blue sky, smiling meadows and flower-clad gardens, we cultivate this produce which puts so much capital in circulation on the world's markets, this produce beloved by rich and poor alike, this beverage which in future will be regarded as an incomparable antidote to tobacco, a generous adversary to alcohol, implanting courage into the human breast, it is only natural that in the interests of humanity my country has determined to stretch out a helping hand to rescue a grand and rich industrial enterprise from threatened ruin.

By a single effort Brazil has thus rendered an immense service, first of all to the producing countries, in endeavouring to secure a reasonable remuneration to a praiseworthy and laborious industry; and secondly to the consuming countries, in avoiding the withdrawal from the markets of a large portion of the supplies, a withdrawal which in the near future would have raised the price of coffee to such an extent that it would have ceased to be the stimulating wholesome beverage of the poor, to become the delicious beverage of the rich.

I. — ILLUSTRATIONS RELATING
TO THE PRODUCTION OF COFFEE
IN THE STATE OF SAN PAULO



FIG. 1. — A forest in the State of São Paulo.



FIG. 2. — A « fazenda » with forest in the background.



FIG. 3. — Forest to be cleared and replaced by a coffee plantation.



FIG. 4. — Clearing for a coffee plantation, with « fazenda » in the background.



FIG. 5. — A forest tree.



FIG. 6. — Clearing for a coffee plantation.



FIG. 7. — A new coffee plantation. Some young trees are protected by branches (Urupucas).

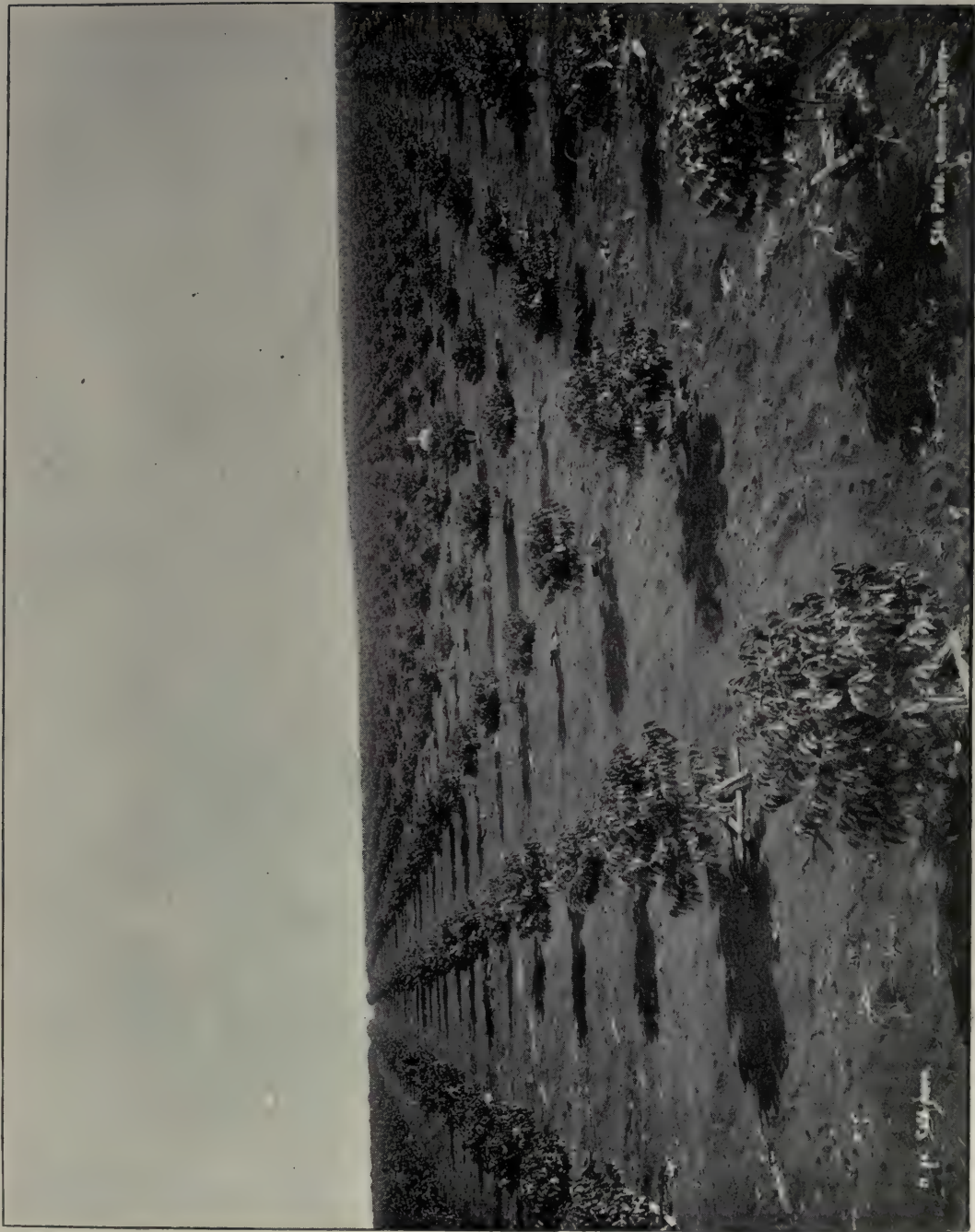


FIG. 8. — New coffee plantation.



FIG. 9. — Photograph of a full-grown coffee tree, uprooted in order to show the extraordinary root development.

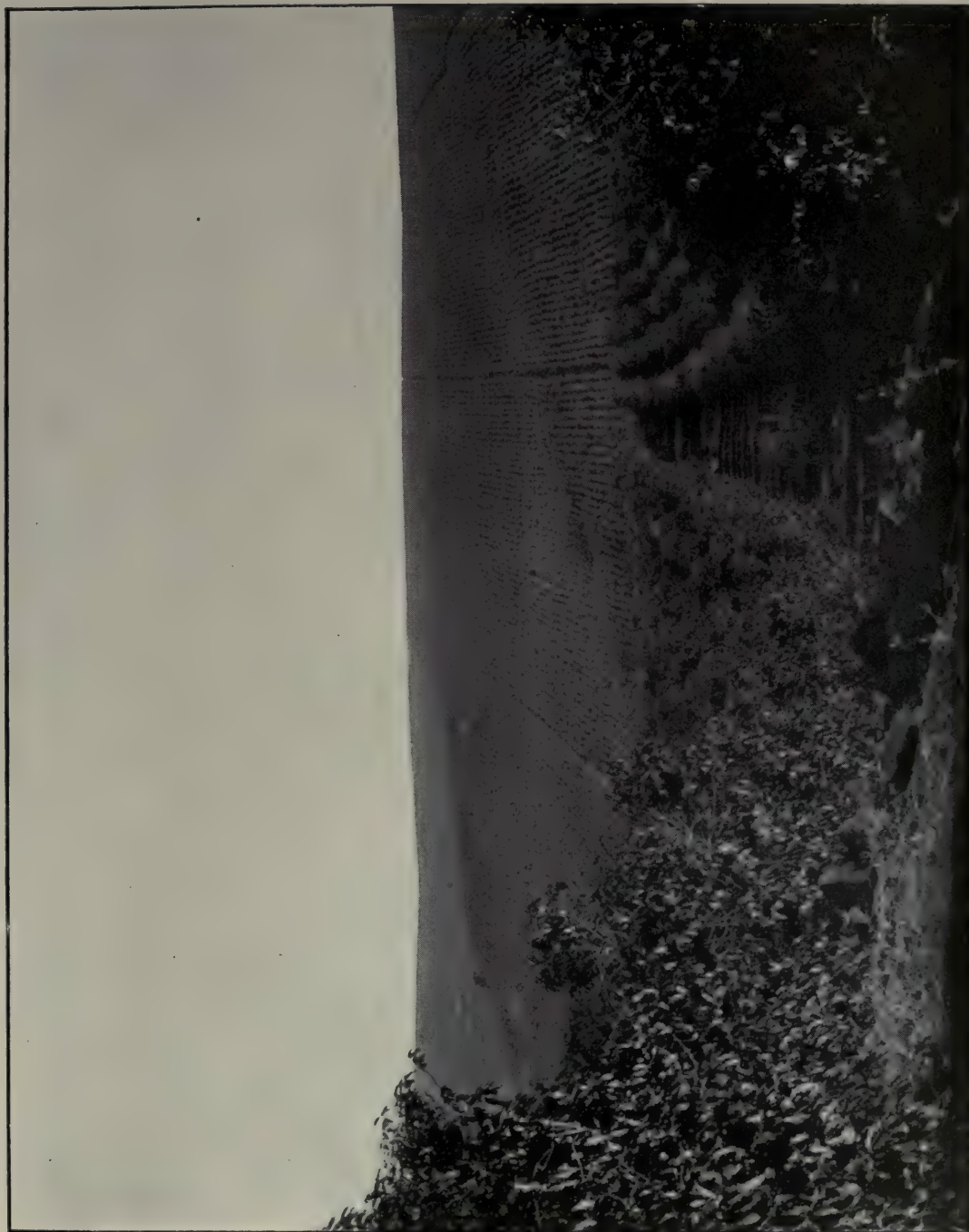


FIG. 10. — A plantation of 800.000 coffee trees in full blossom.

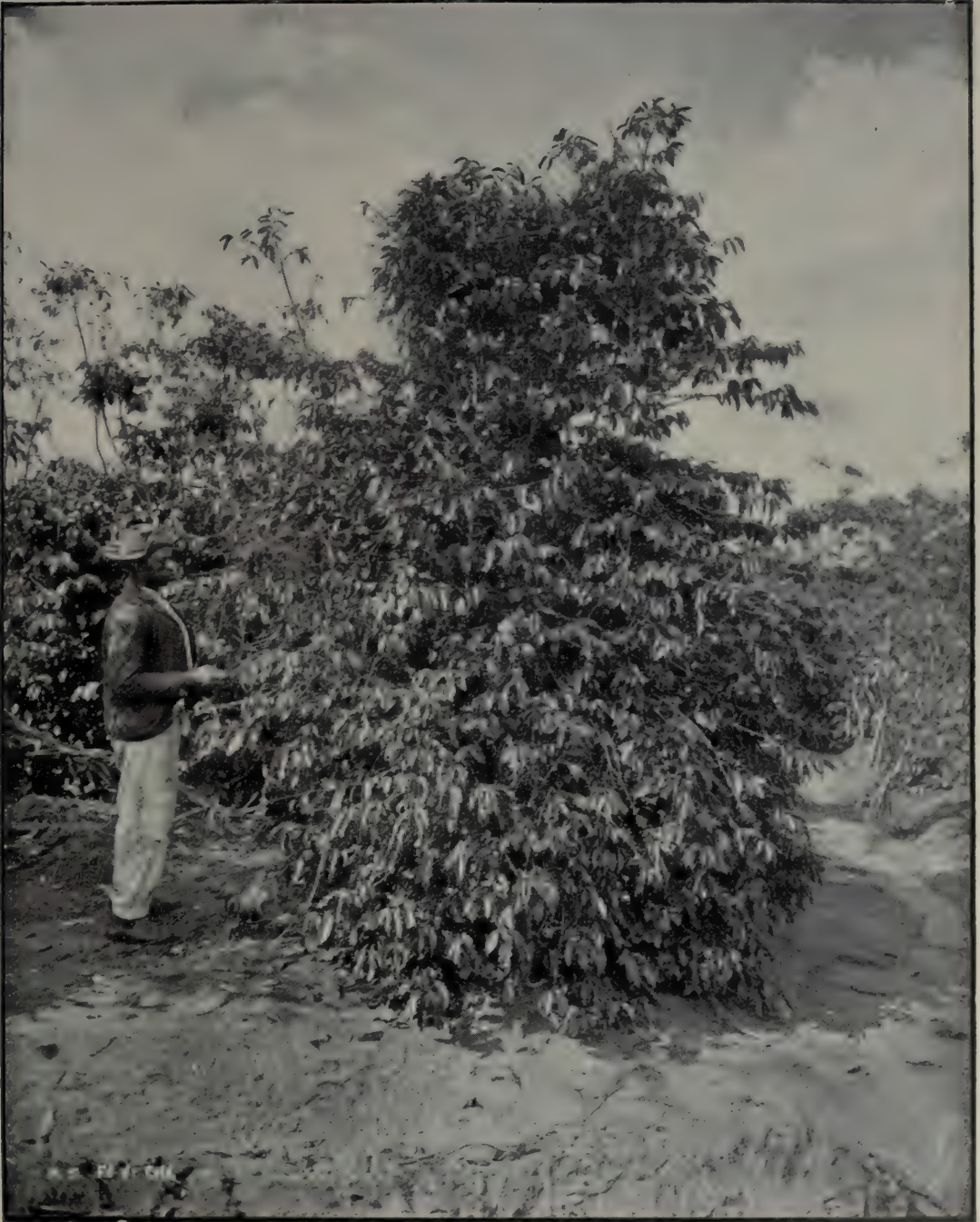


FIG. 11. — Coffee tree covered with fruit, before gathering.

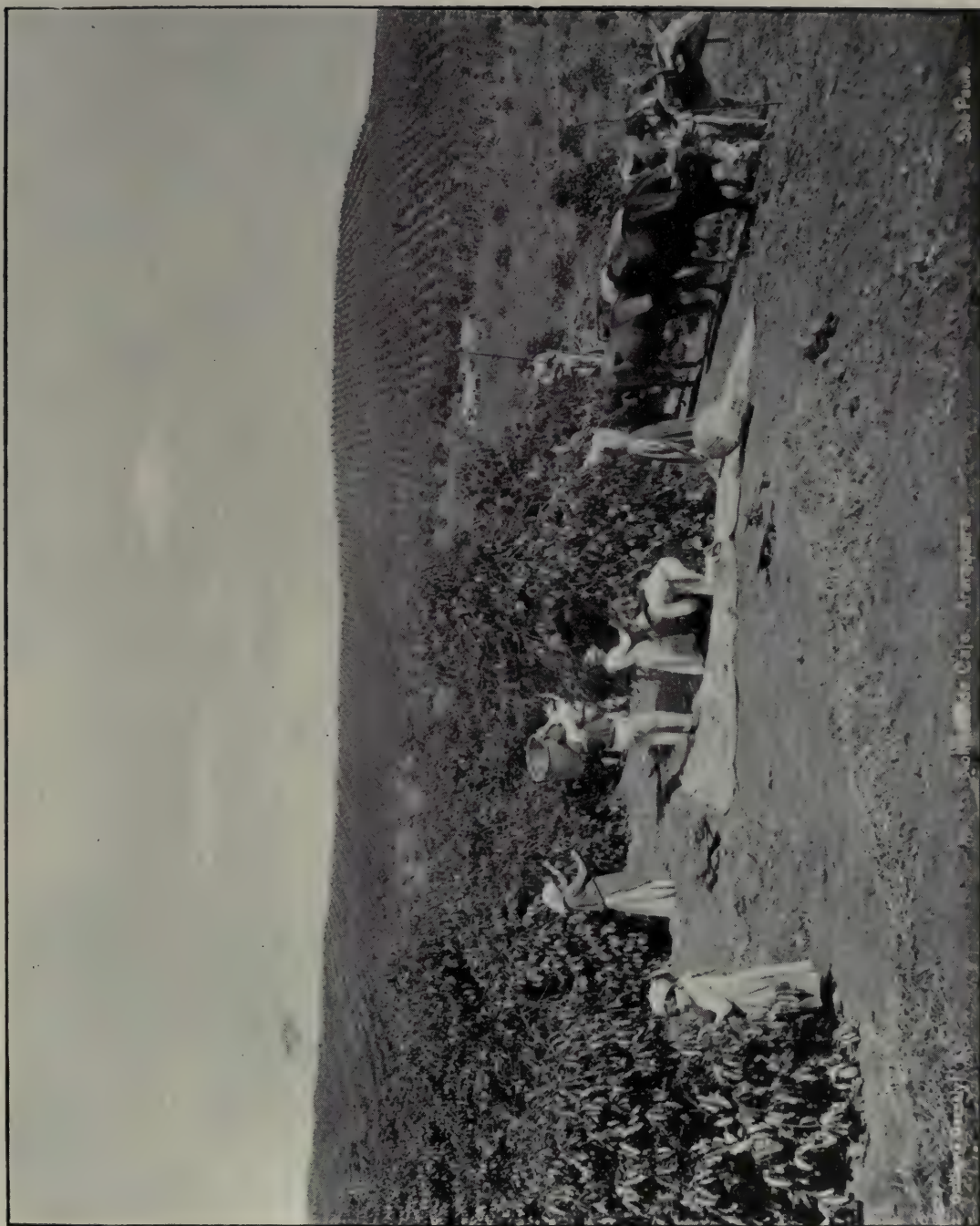


FIG. 12. — Gathering coffee ; employment of linen sheets (lençol method).



FIG. 13. — View of plantation at gathering time, with transport road and wagon.

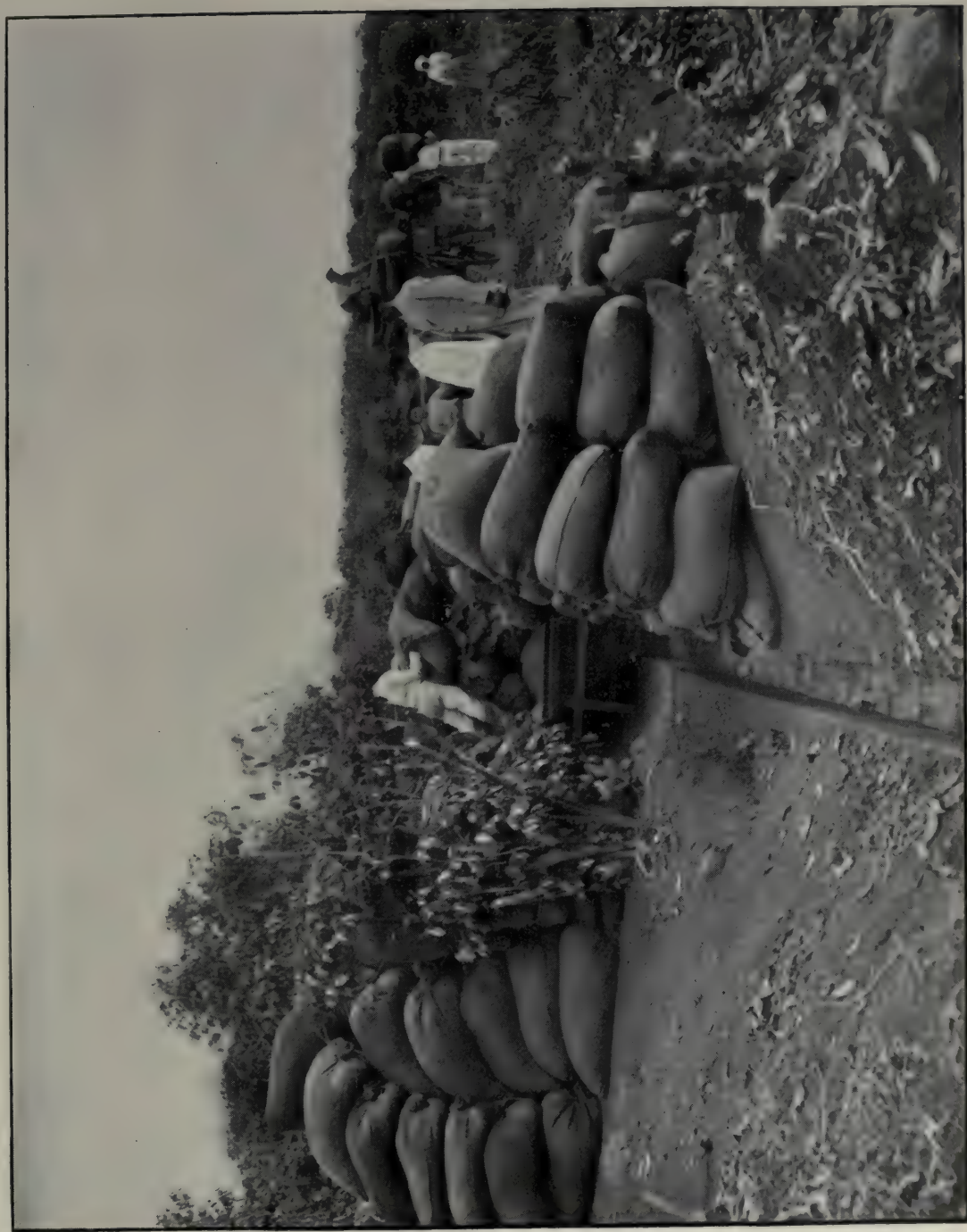


FIG. 14. — Reception of coffee, and « rego conductor » or trench, constructed for the transport to preparation sheds.



FIG. 15. — Coffee plantation, with « rego conductor » for the transport of the crop when gathered.

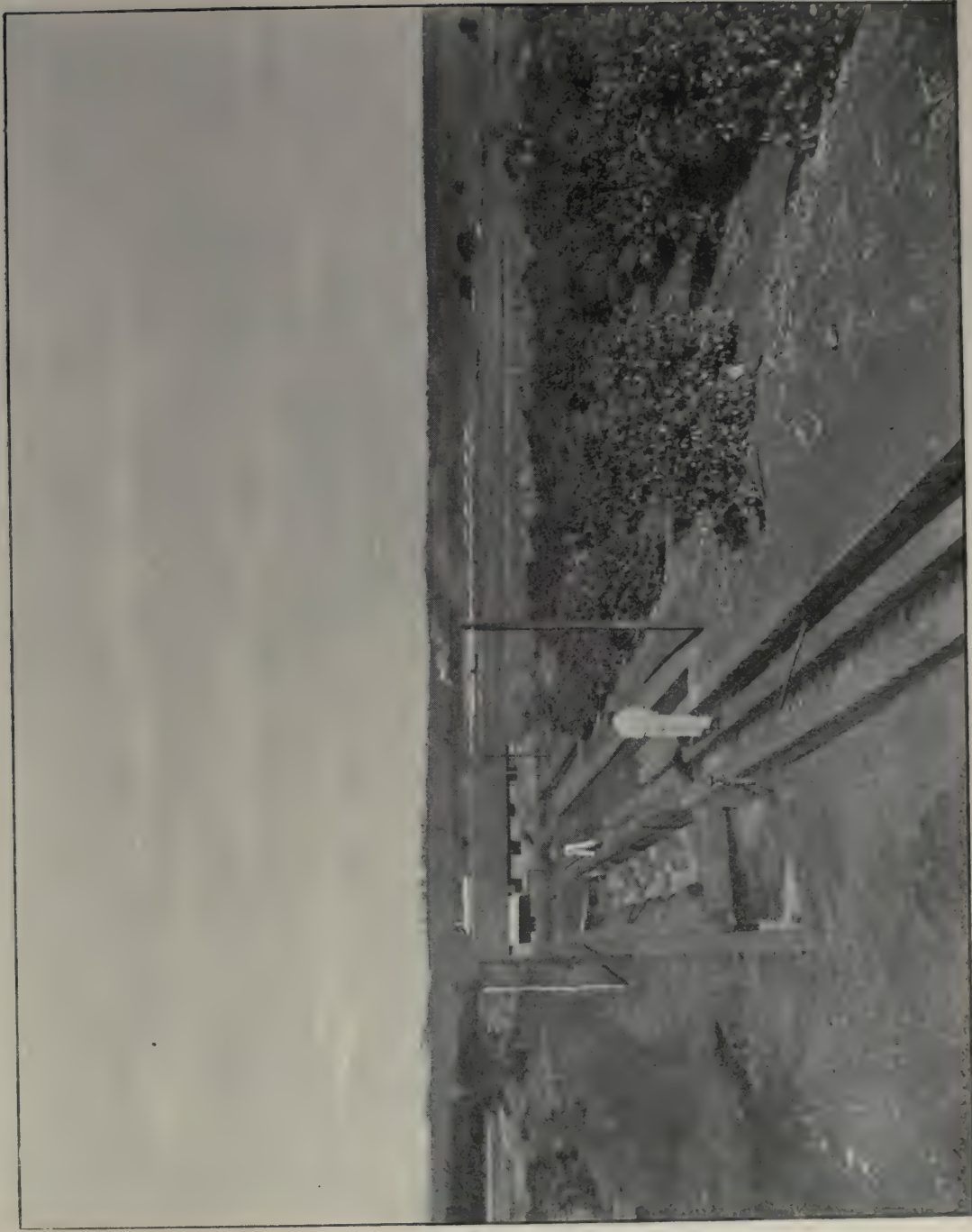


Fig. 16. — Preparation of the coffee by the dry method. Washing tanks for berries.

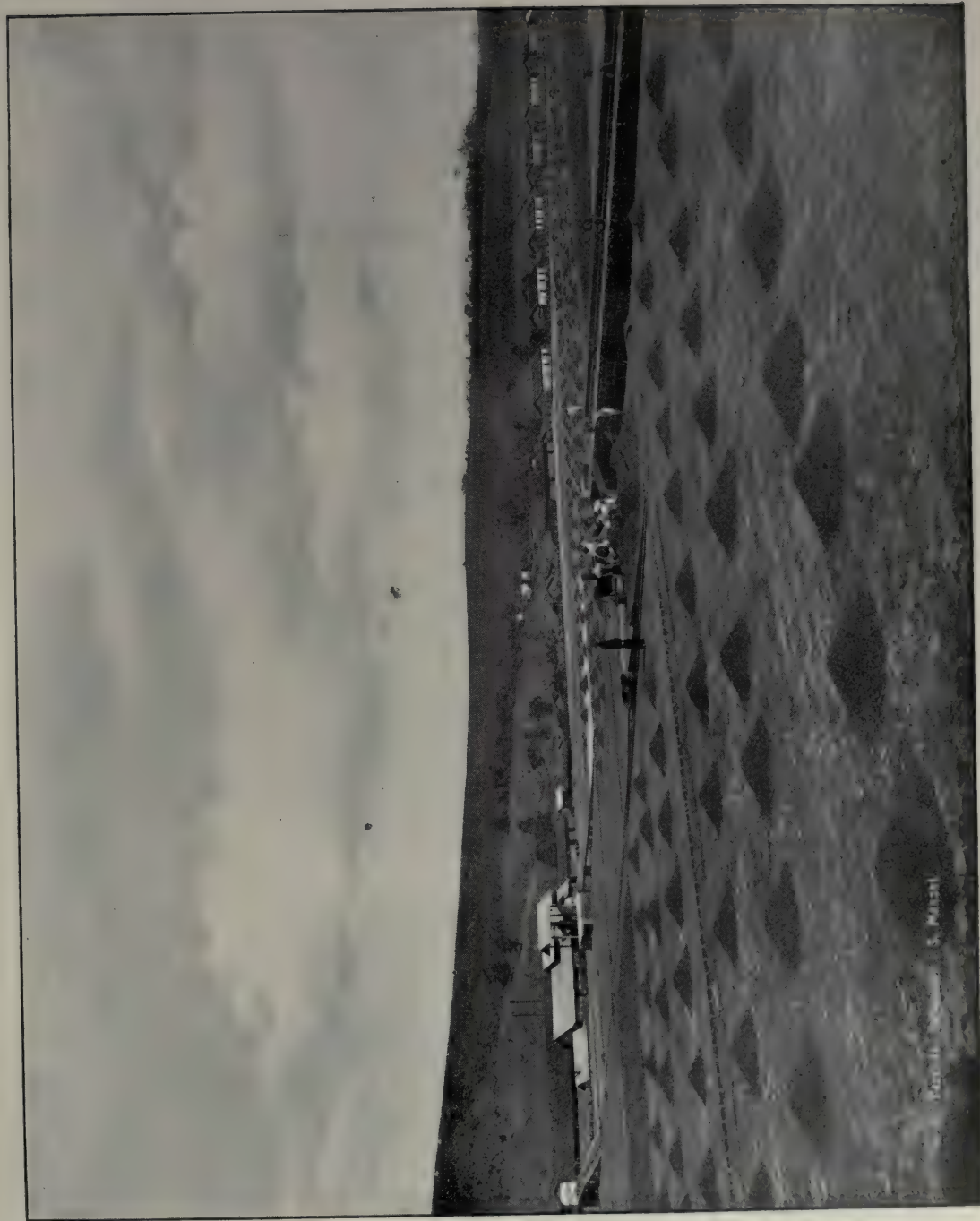


FIG. 17. — Preparation of coffee by the dry method. Drying grounds or « terreiros ».
Drying the berries.



Fig. 18. -- Preparation of coffee by the dry method. Drying grounds (terreiros)

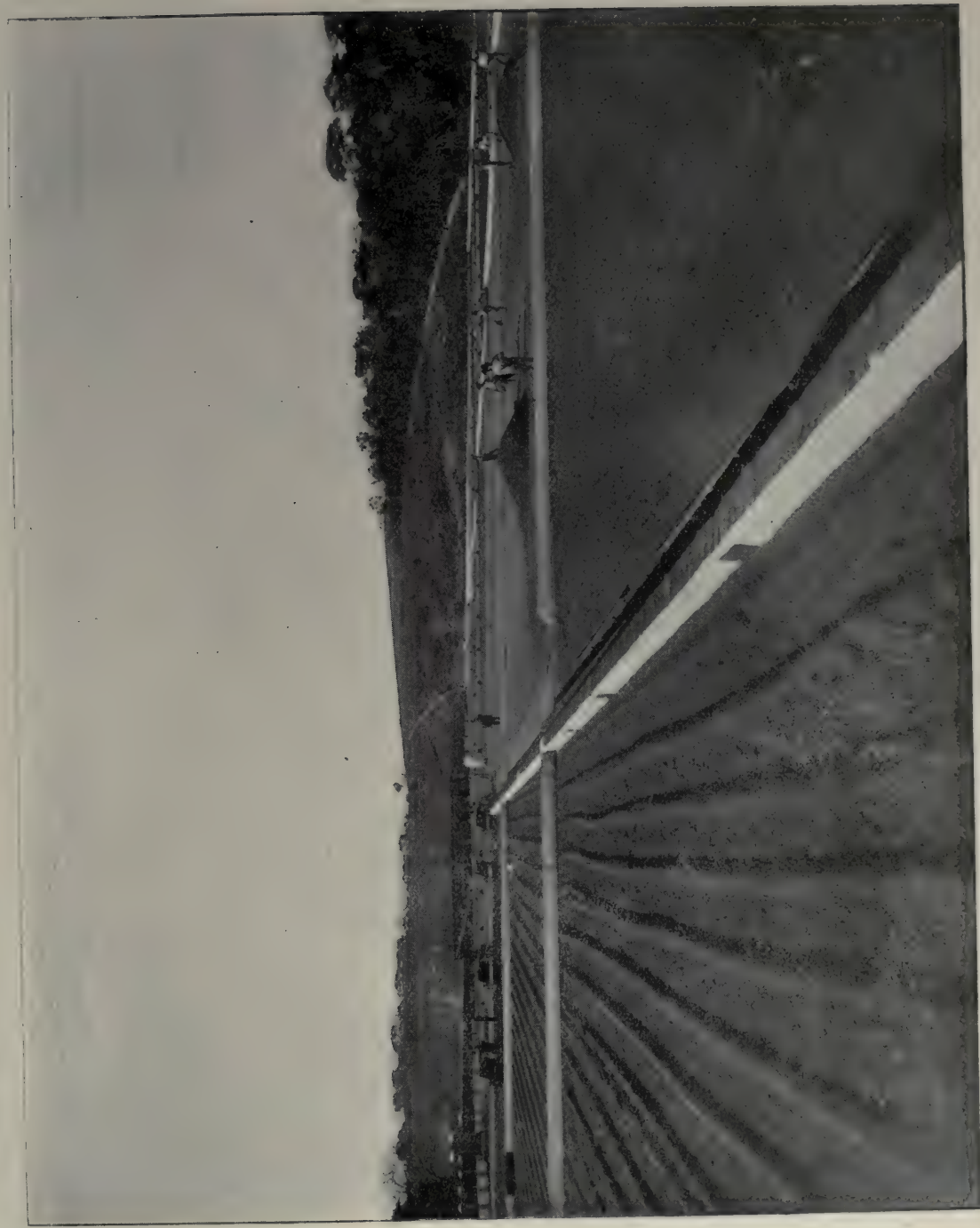


FIG. 19. — Preparation of coffee by the dry method. Drying grounds (terreiros).



FIG. 20. — Preparation of coffee by the dry method. Transport of the dried coffee berries from the « terreiros » to the preparation sheds for decortication and sorting.



Fig. 21. -- Preparation of coffee by the dry method. Interior of decorticating and sorting shed.

F. RAMOS. The valorisation of coffee.

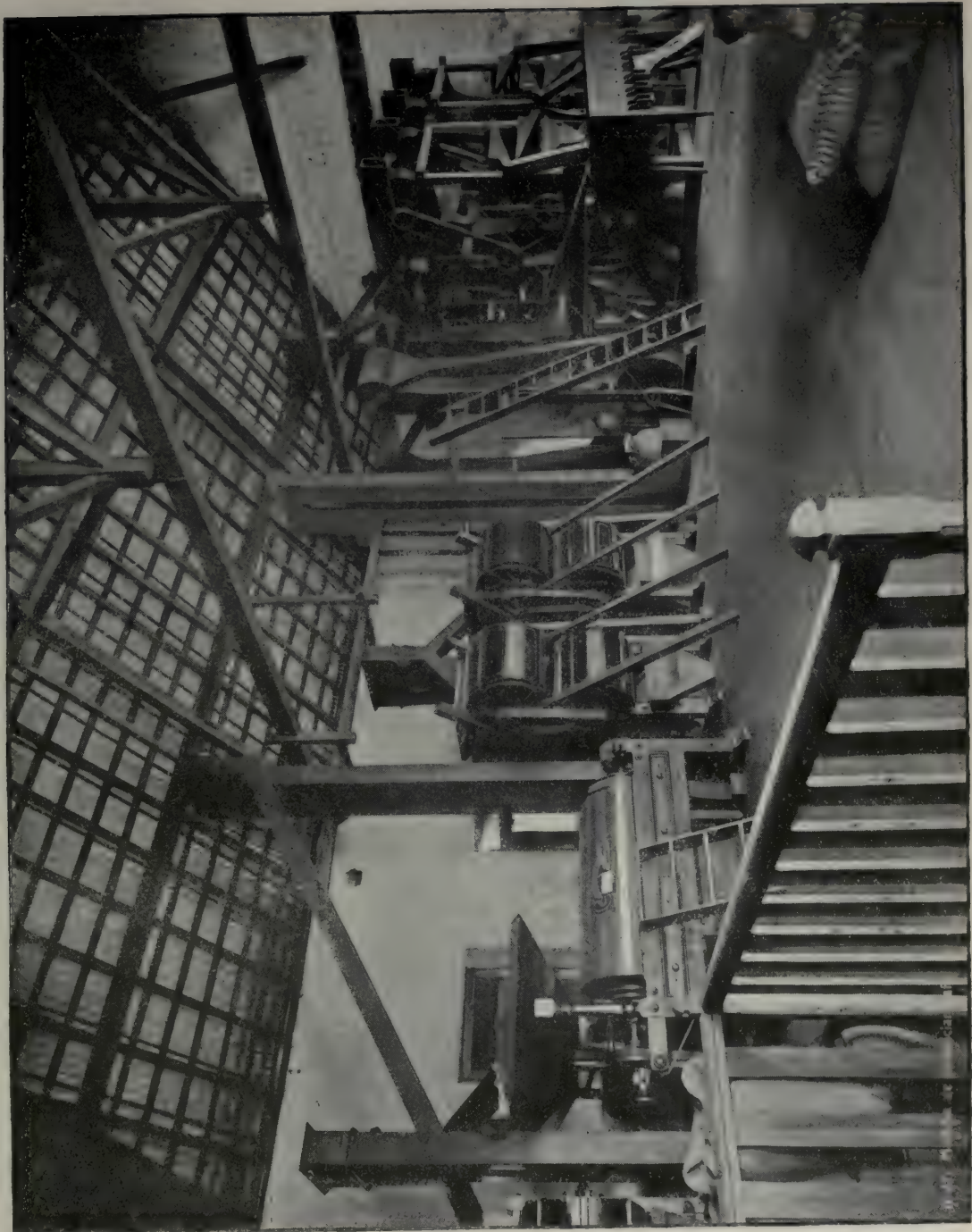


FIG. 22. — Preparation of coffee by the dry method. Machinery employed.

F. RAMOS. The valorisation of coffee.

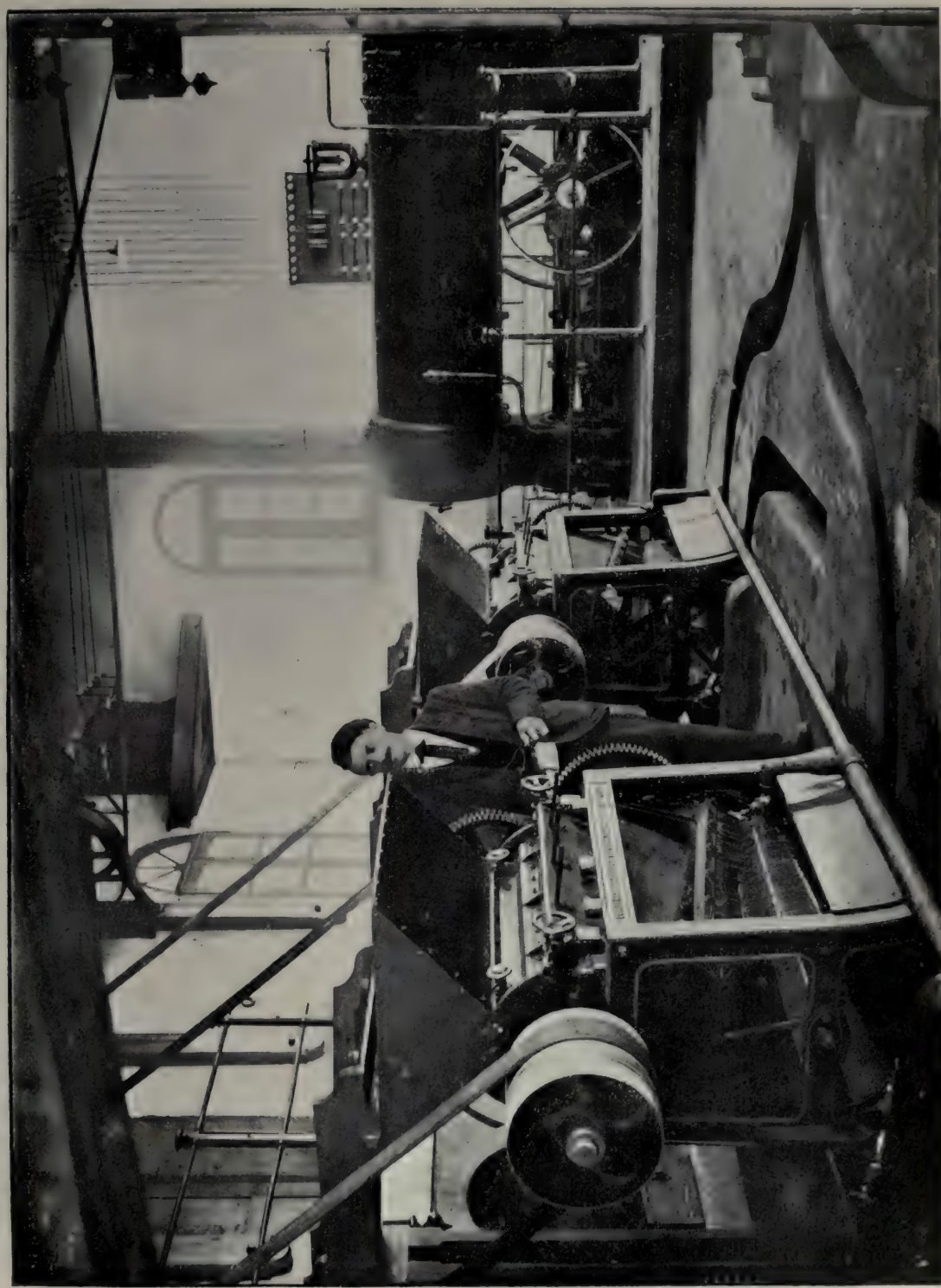


FIG. 23. — Preparation of coffee by the damp method. Interior of pulping shed.

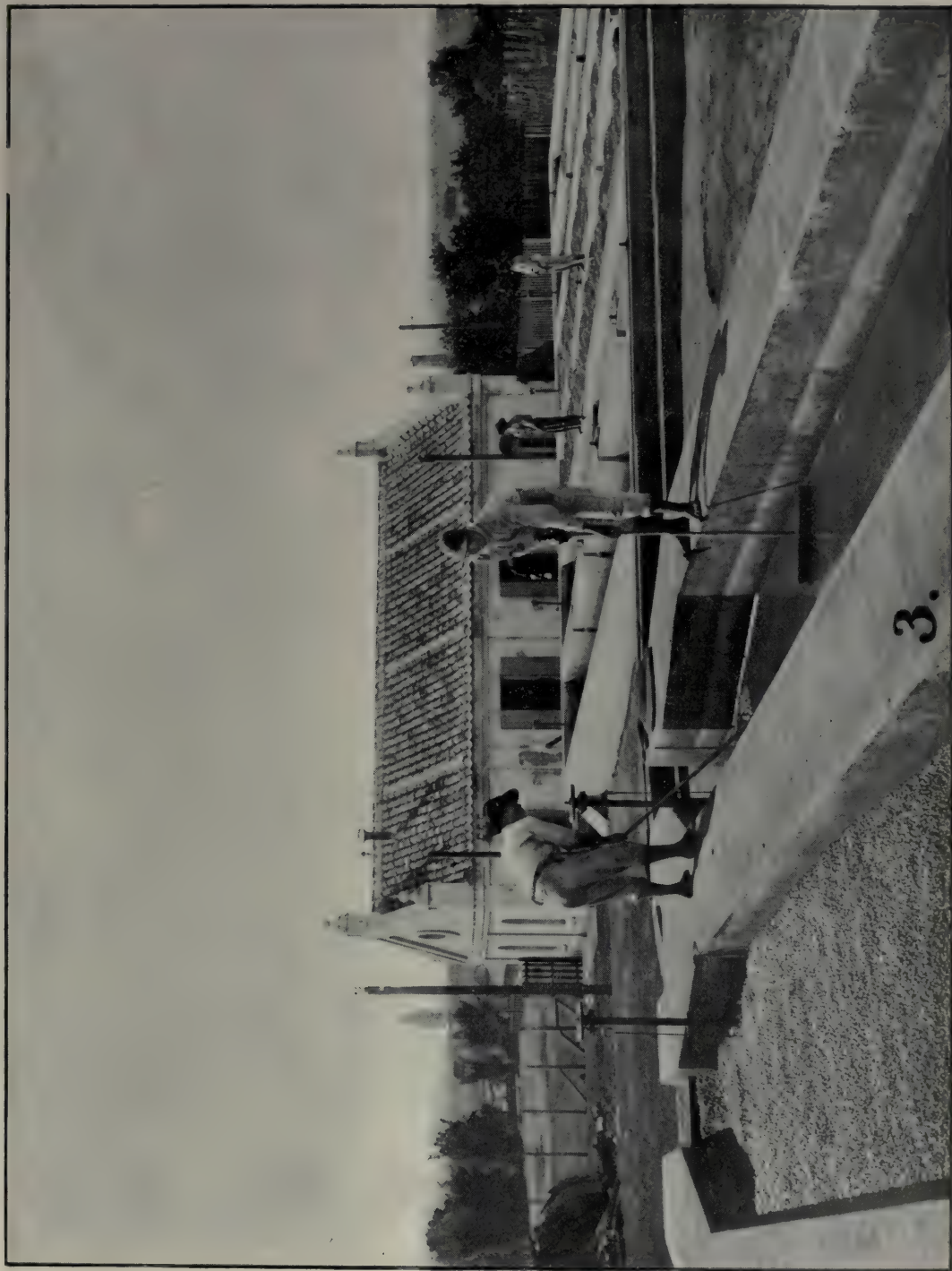


FIG. 24. — Preparation of coffee by the damp method. Pulping shed.
Open tanks for fermentation and washing.

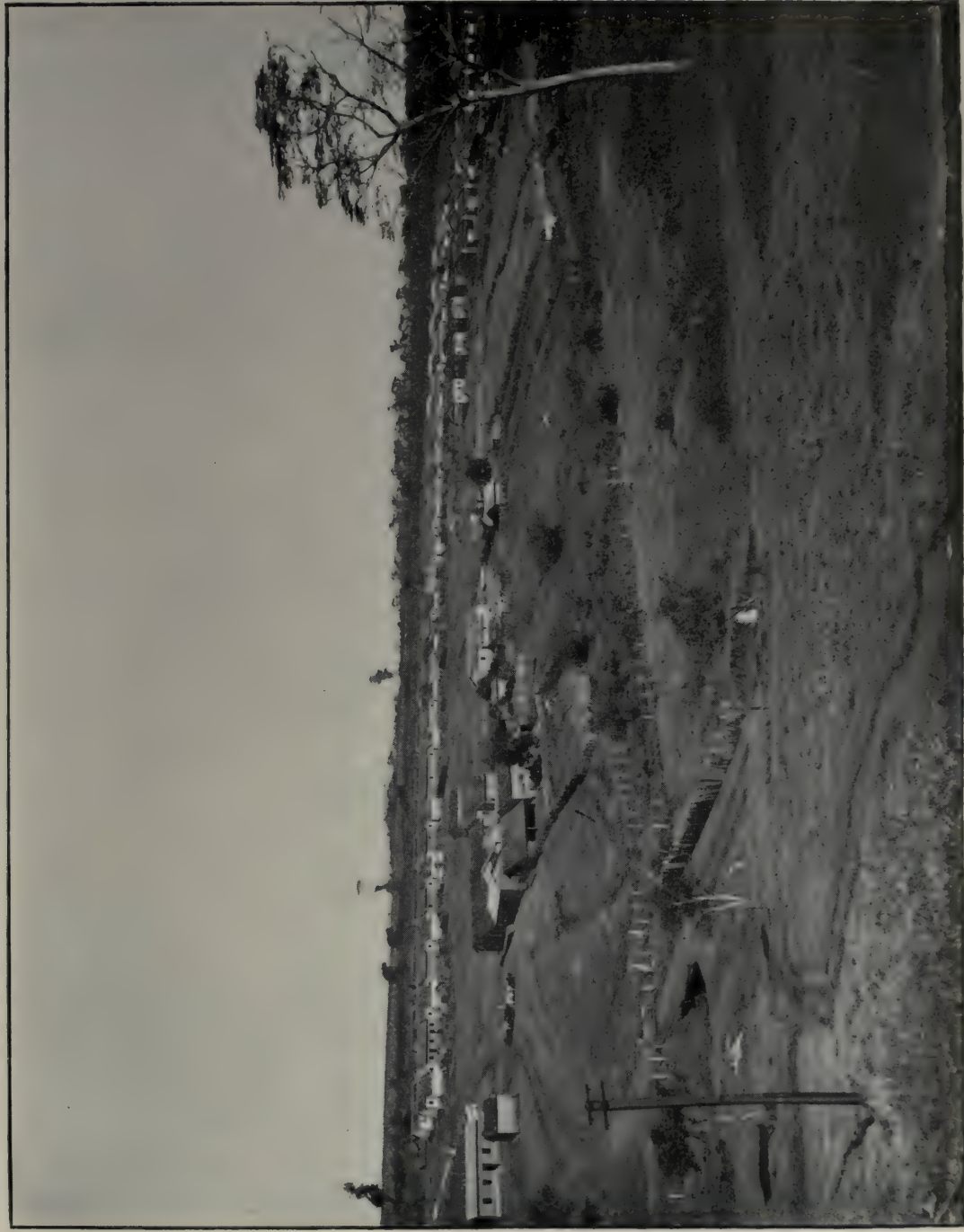


FIG. 25. — Workmen's dwellings on a San Paulo coffee plantation.

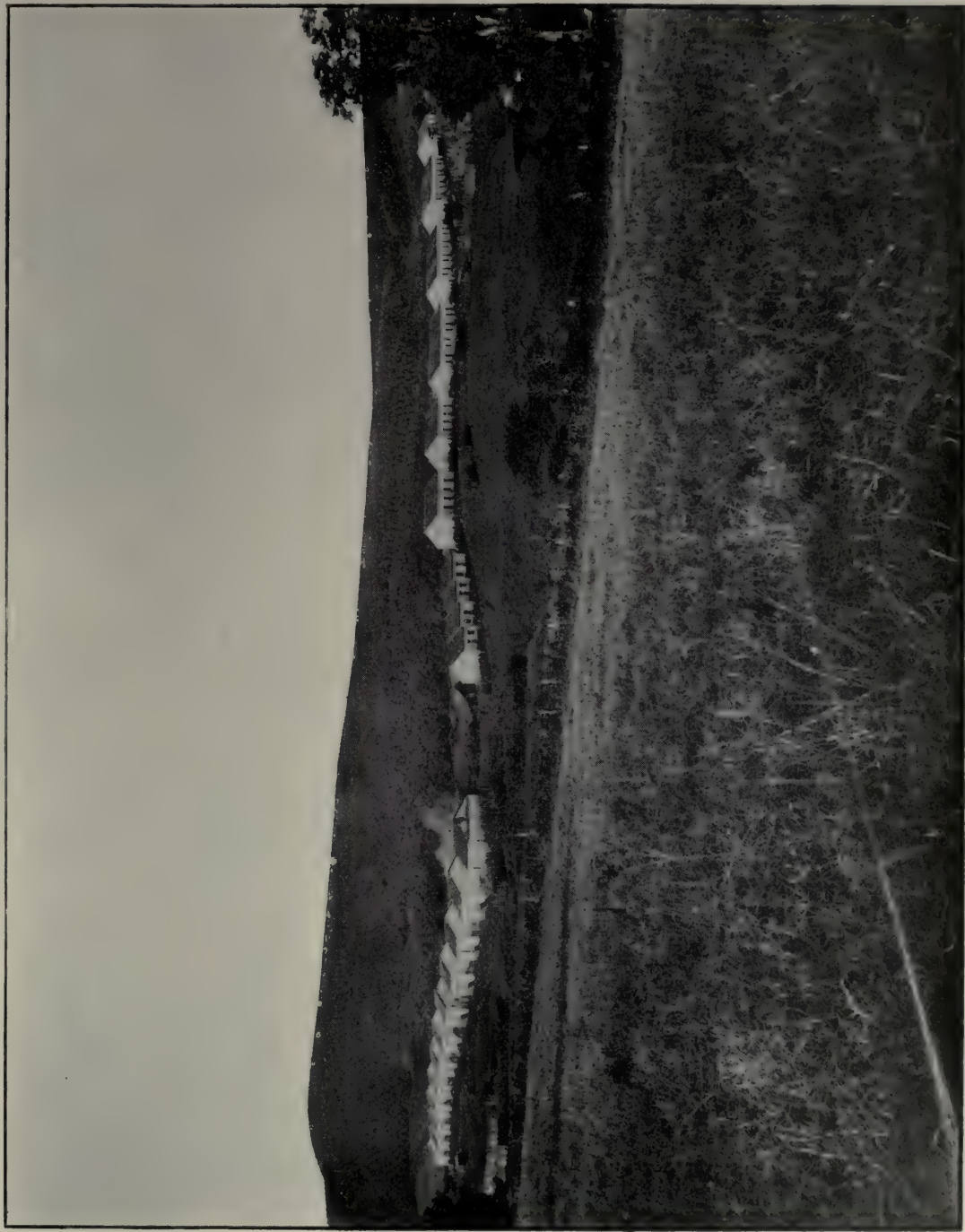


FIG. 26. — Workmen's dwellings on a "fazenda" or coffee plantation.

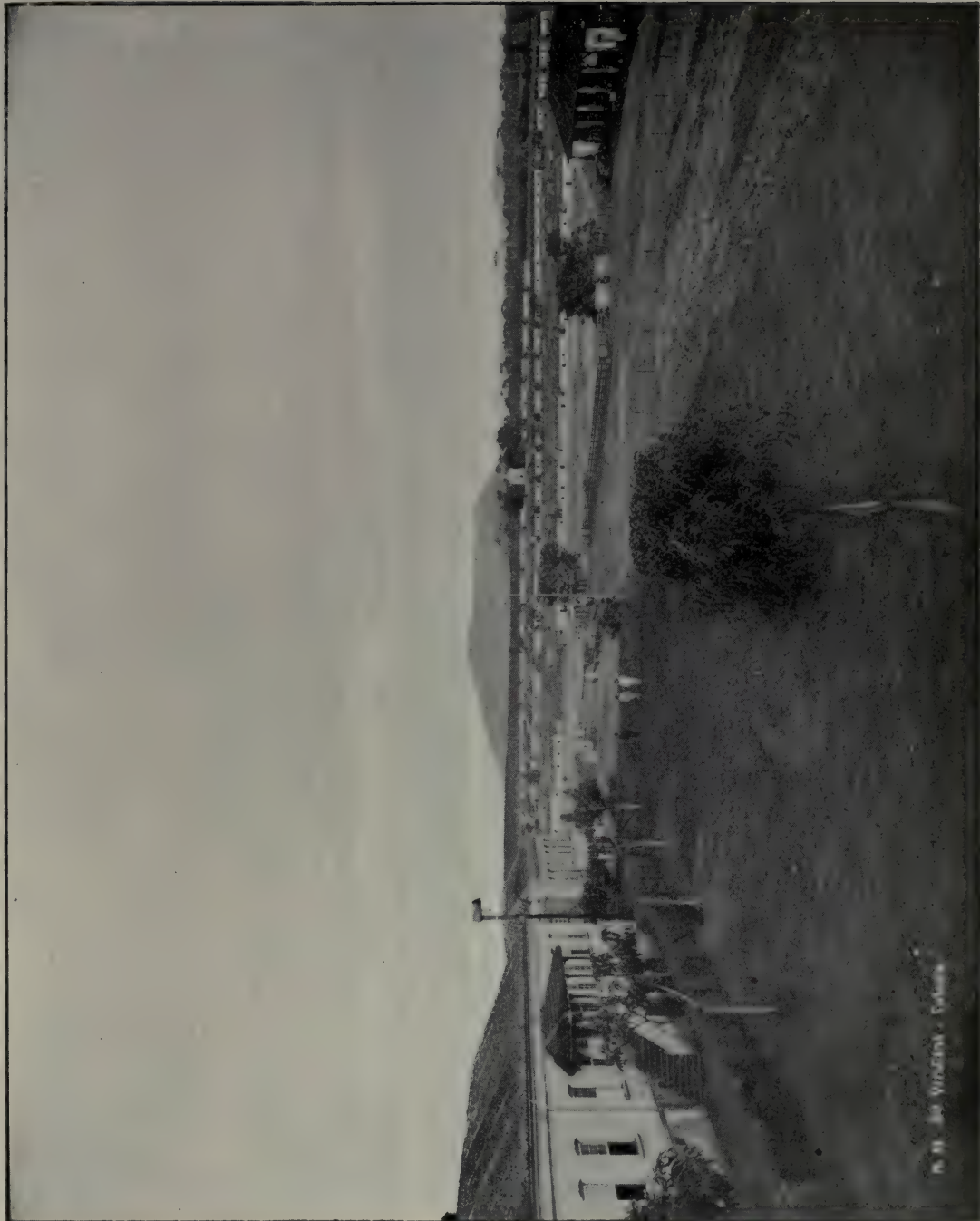


Fig. 27. — Various dwellings on a « fazenda ».



FIG. 28. — General view of a « fazenda »



FIG. 29. — Group of San Paulo coffee pickers.

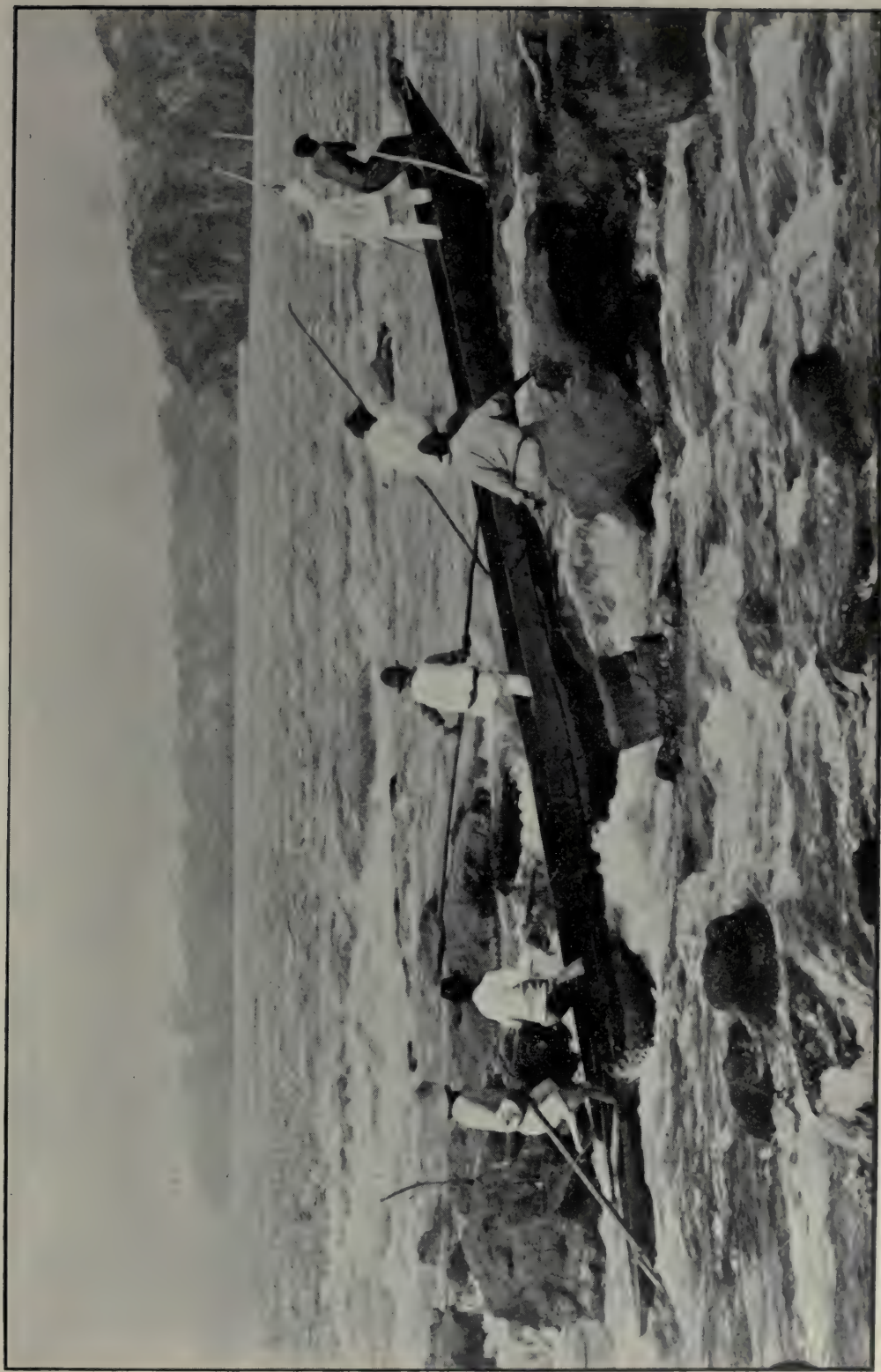


FIG. 30. — River Tiété in the State of San Paulo.



Fig 31. — A railway line running through a « fazenda ».

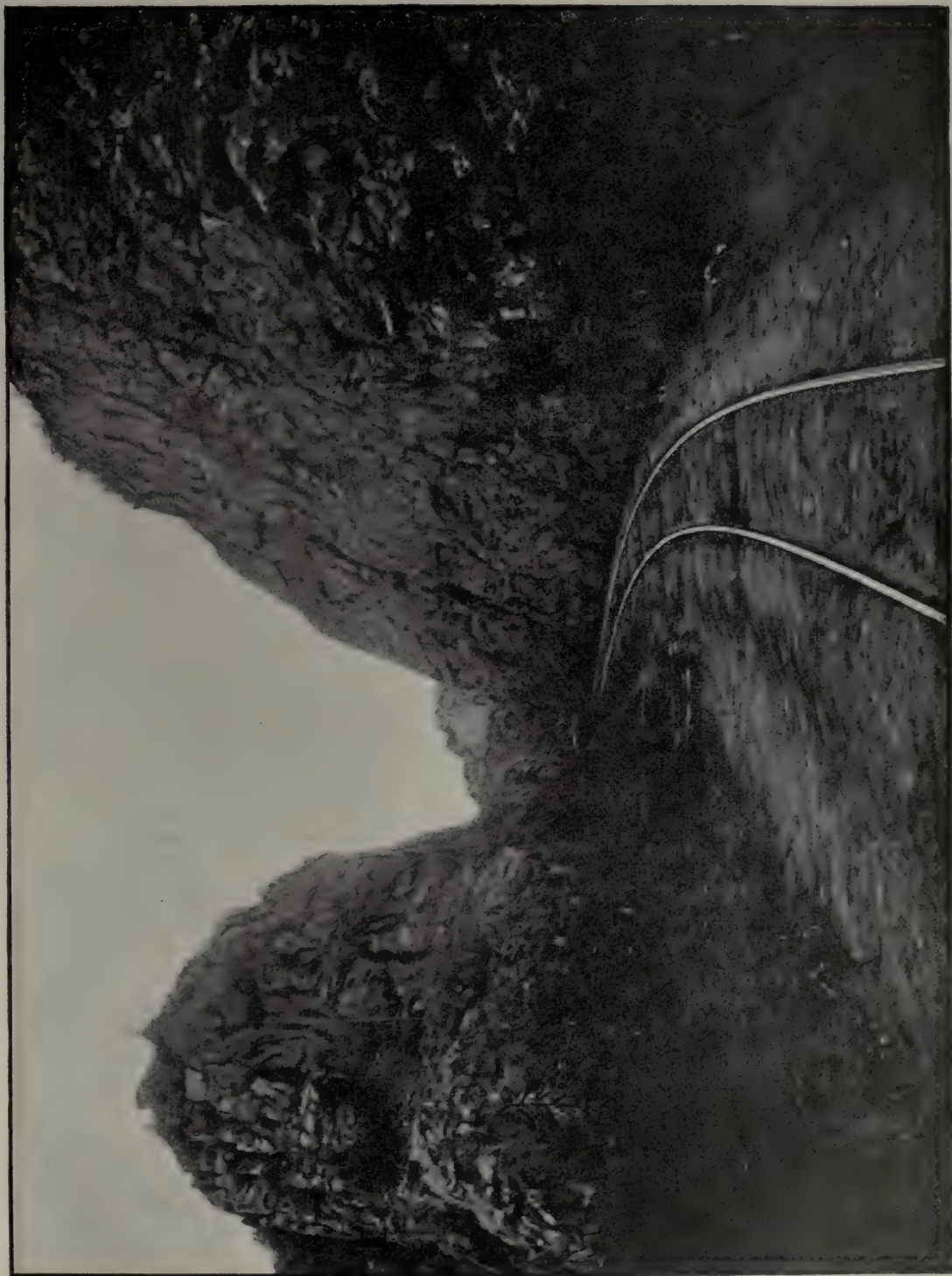


FIG. 32. — A difficult curve on the Mogyana railway.



FIG. 33. — Da Luz railway station, San Paulo, capital of the State.

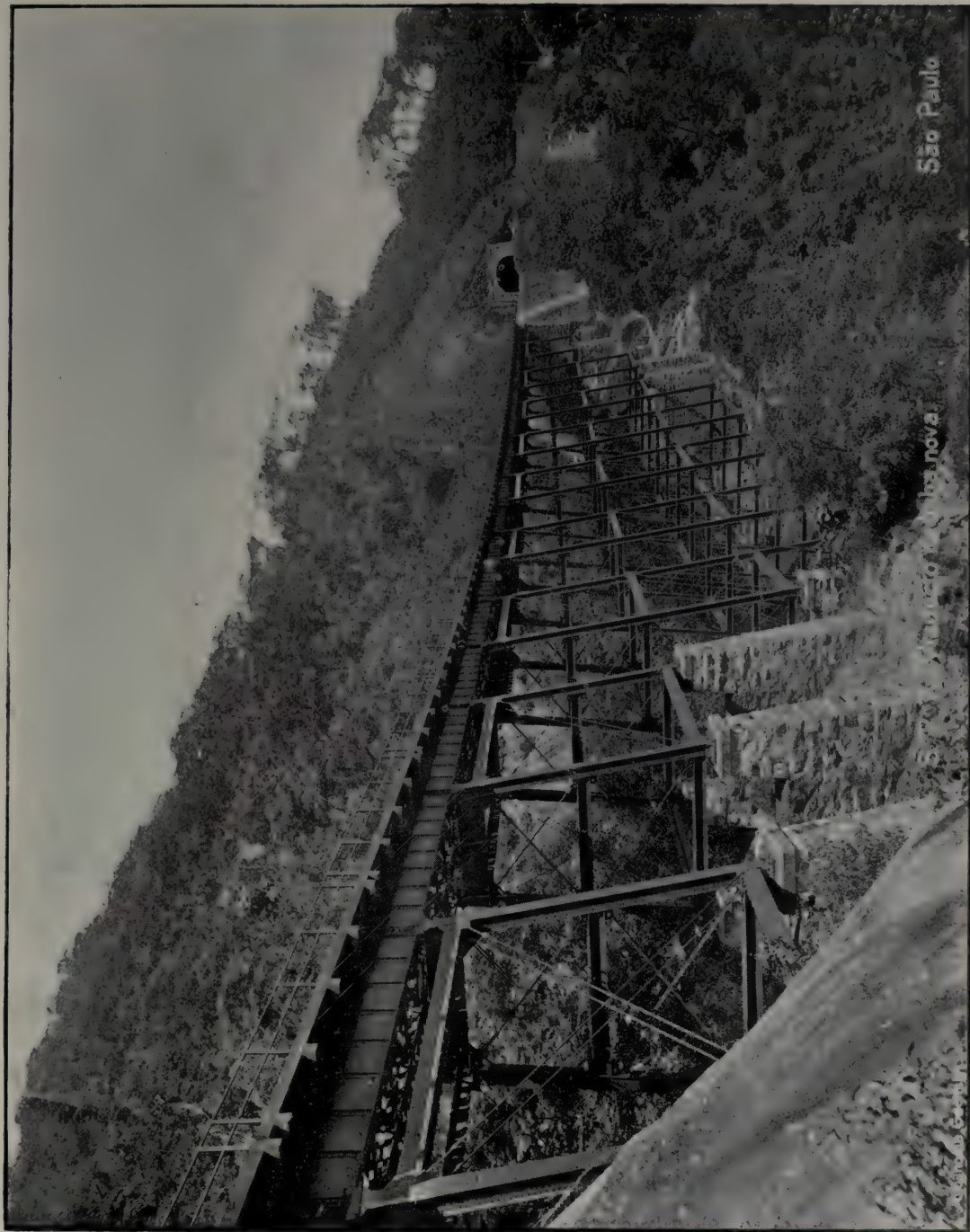


FIG. 34. — Viaduct on the San Paulo to Santos railway.

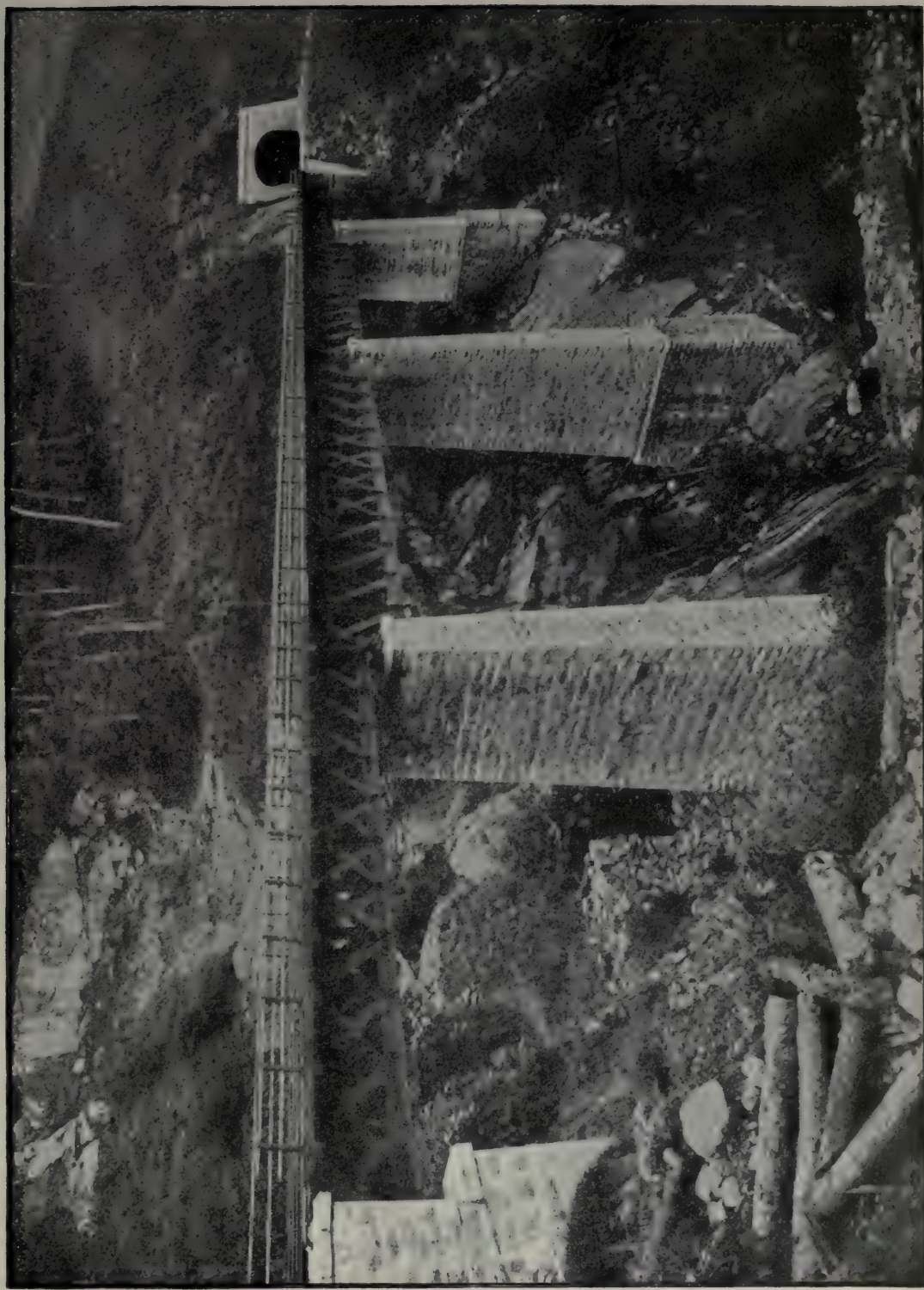


FIG. 35. — Railway over gorge between San Paulo and Santos.

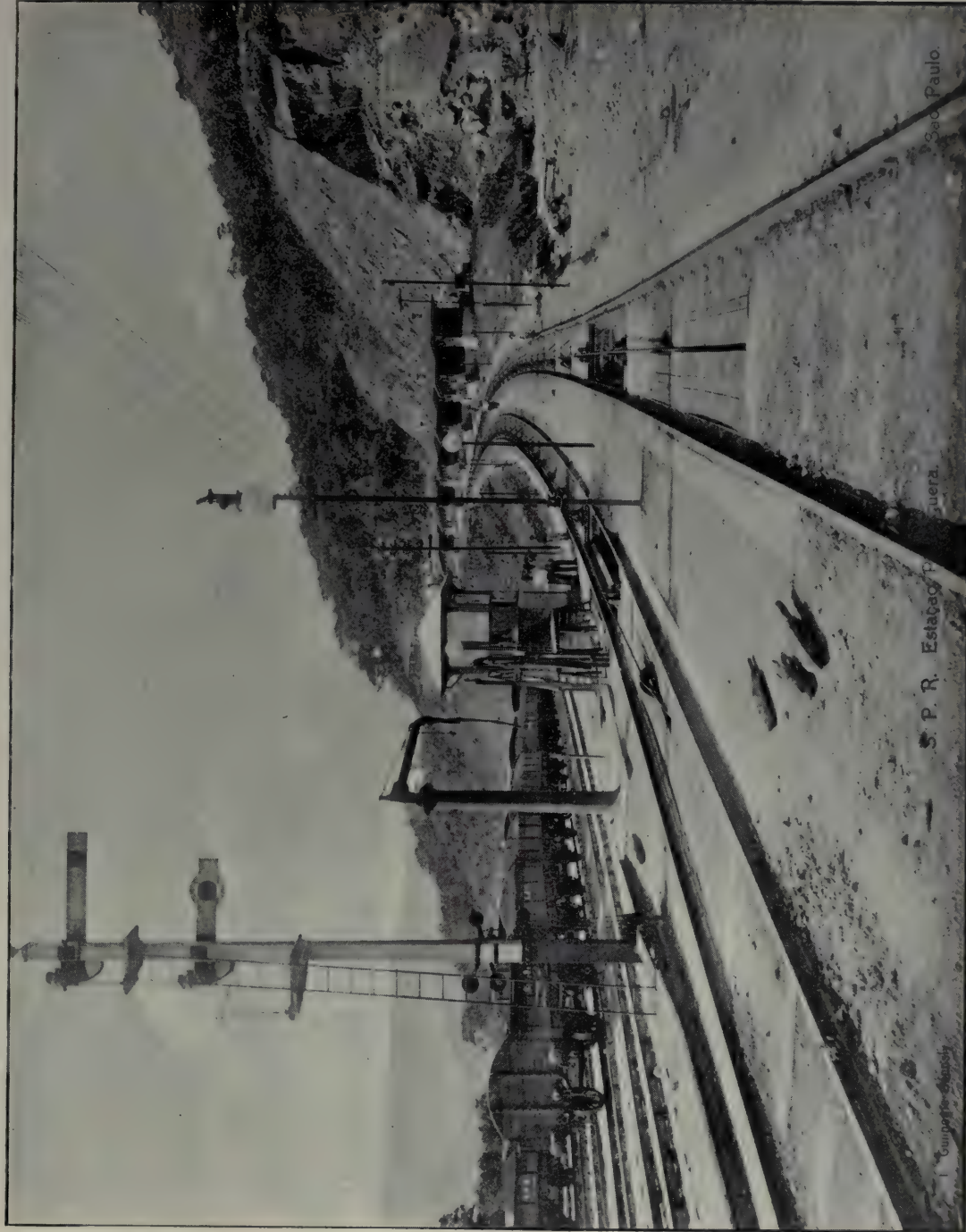


FIG. 36. — Wayside station on the railway between San Paulo and Santos.

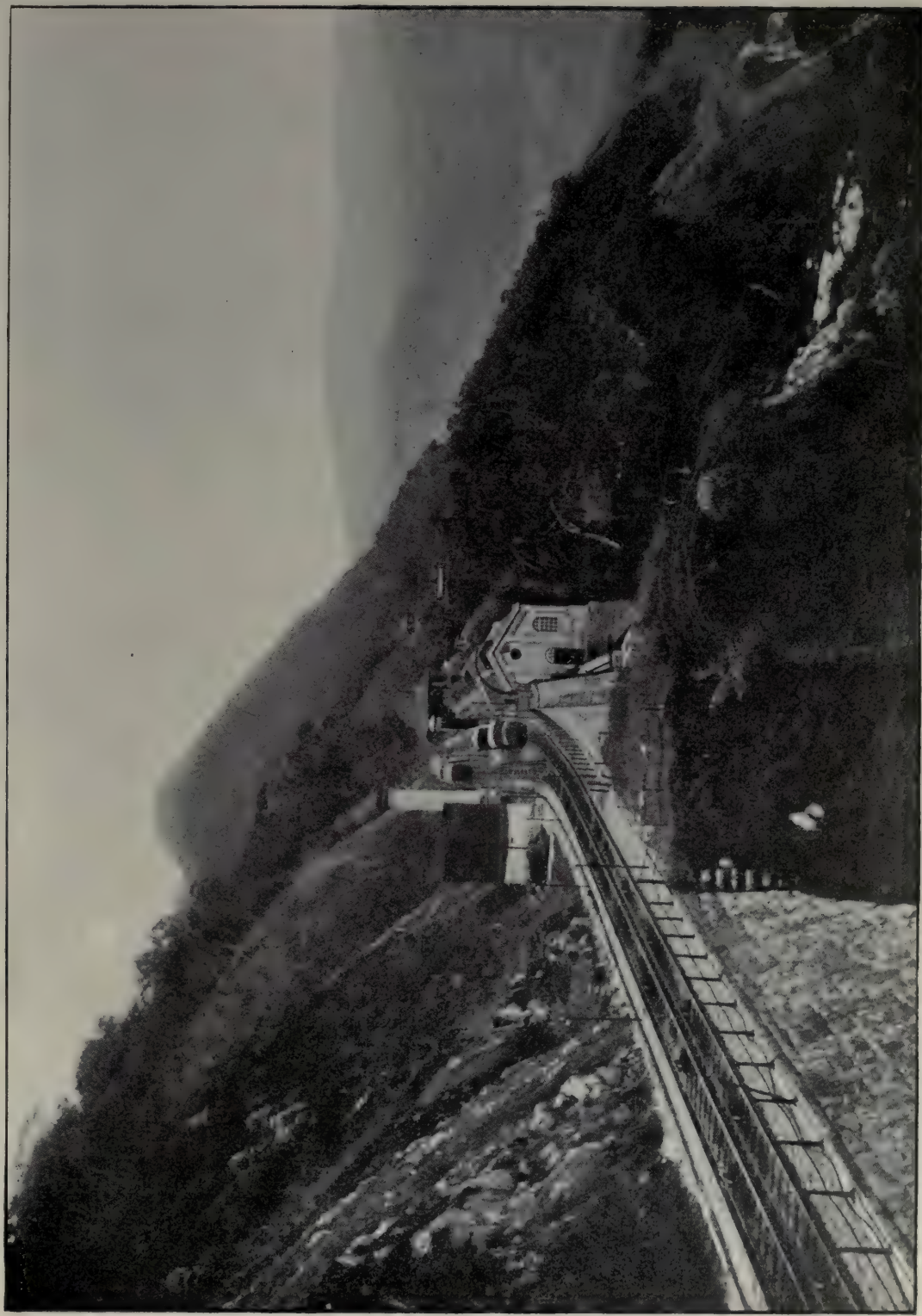


FIG 37. — Cable traction on the San Paulo to Santos railway.

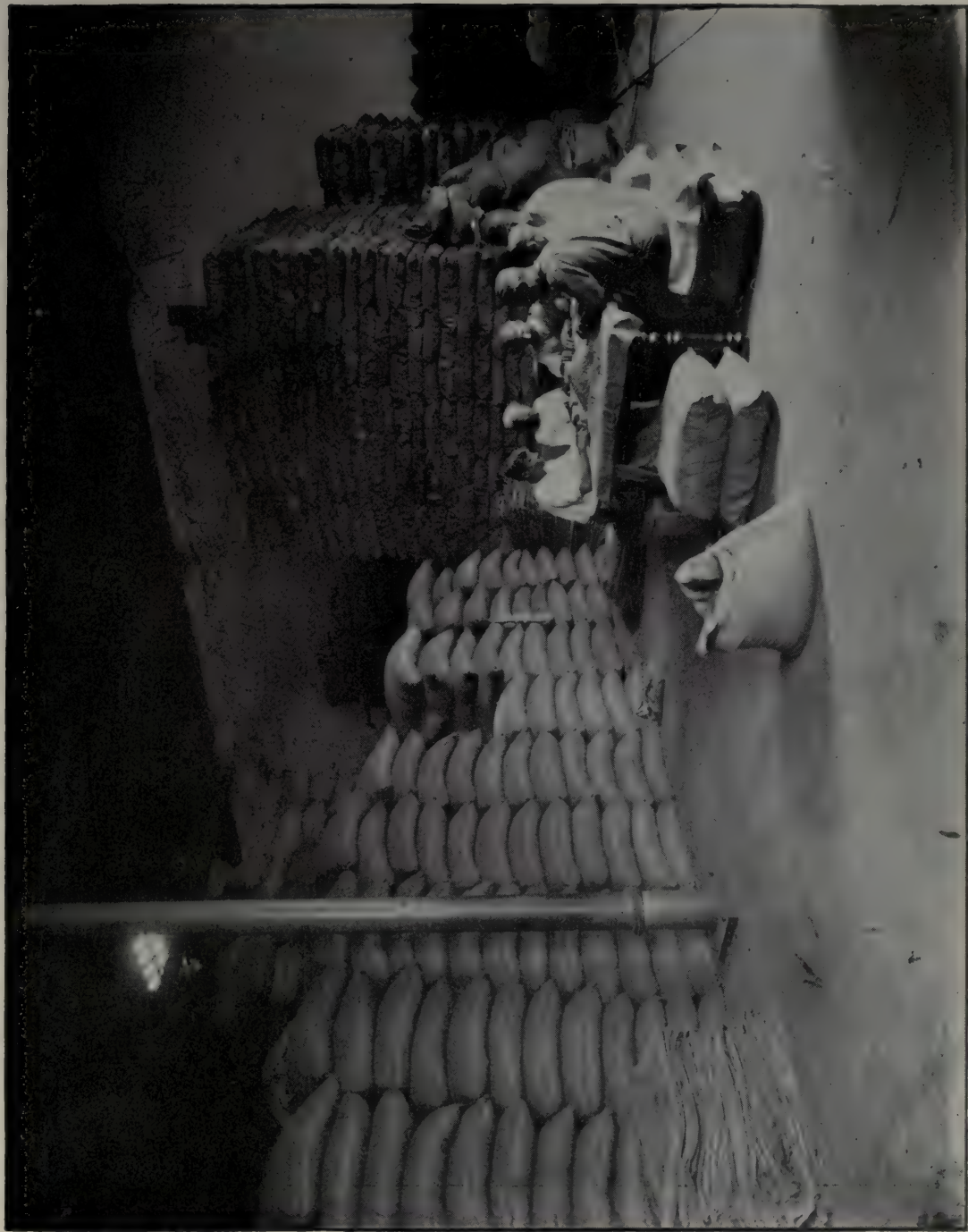


FIG. 38. — Coffee warehouse at Santos. Sorting.



FIG. 39. — Coffee warehouse at Santos.



FIG. 40. — Coffee warehouse at Santos.



FIG. 41. — Shipment of coffee at Santos.



FIG 42. — Shipment of coffee at Santos.

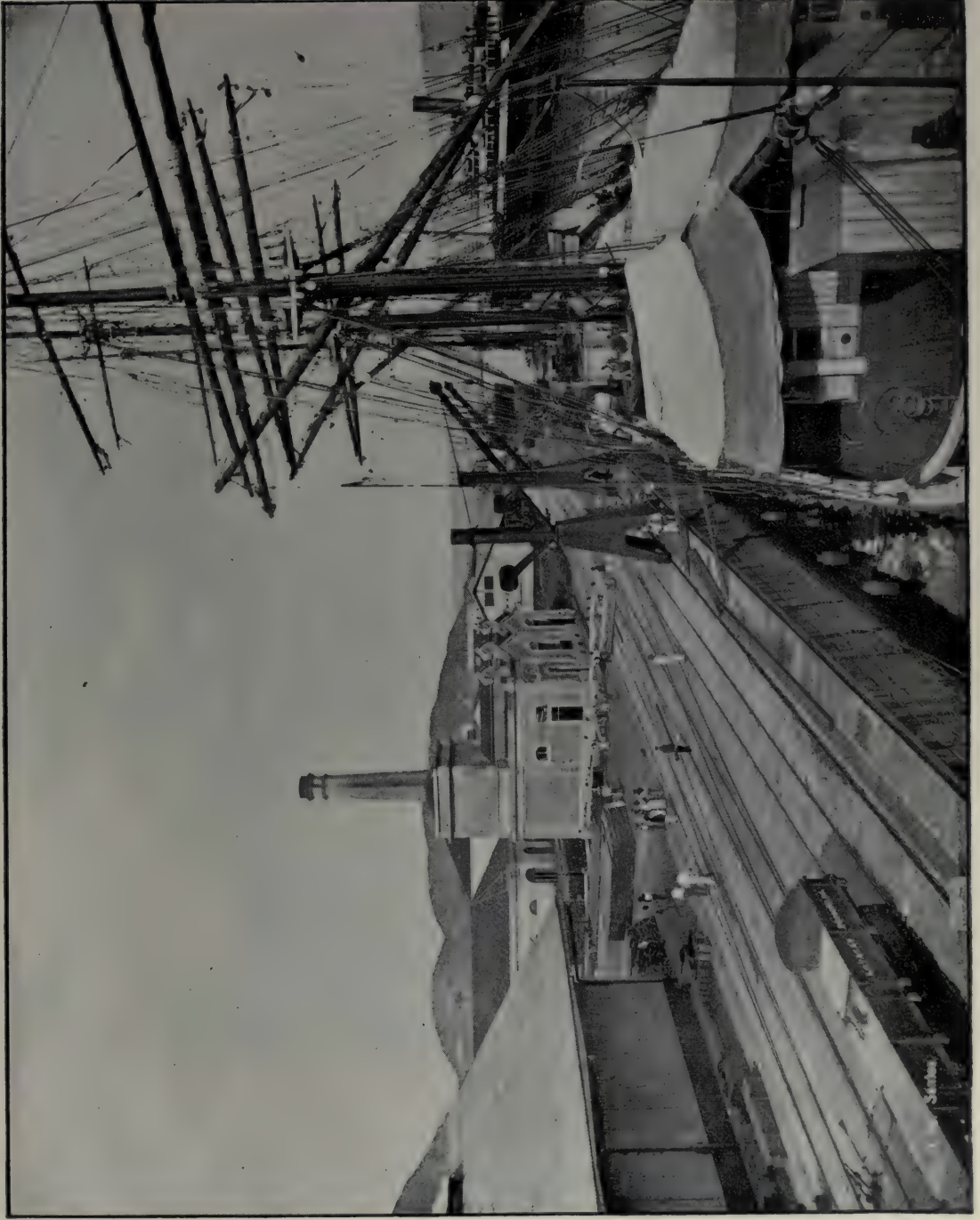


Fig. 43 — Wharves at Santos.

II. — ILLUSTRATIONS RELATING TO
PRODUCTS OTHER THAN COFFEE
IN THE STATE OF SAN PAULO

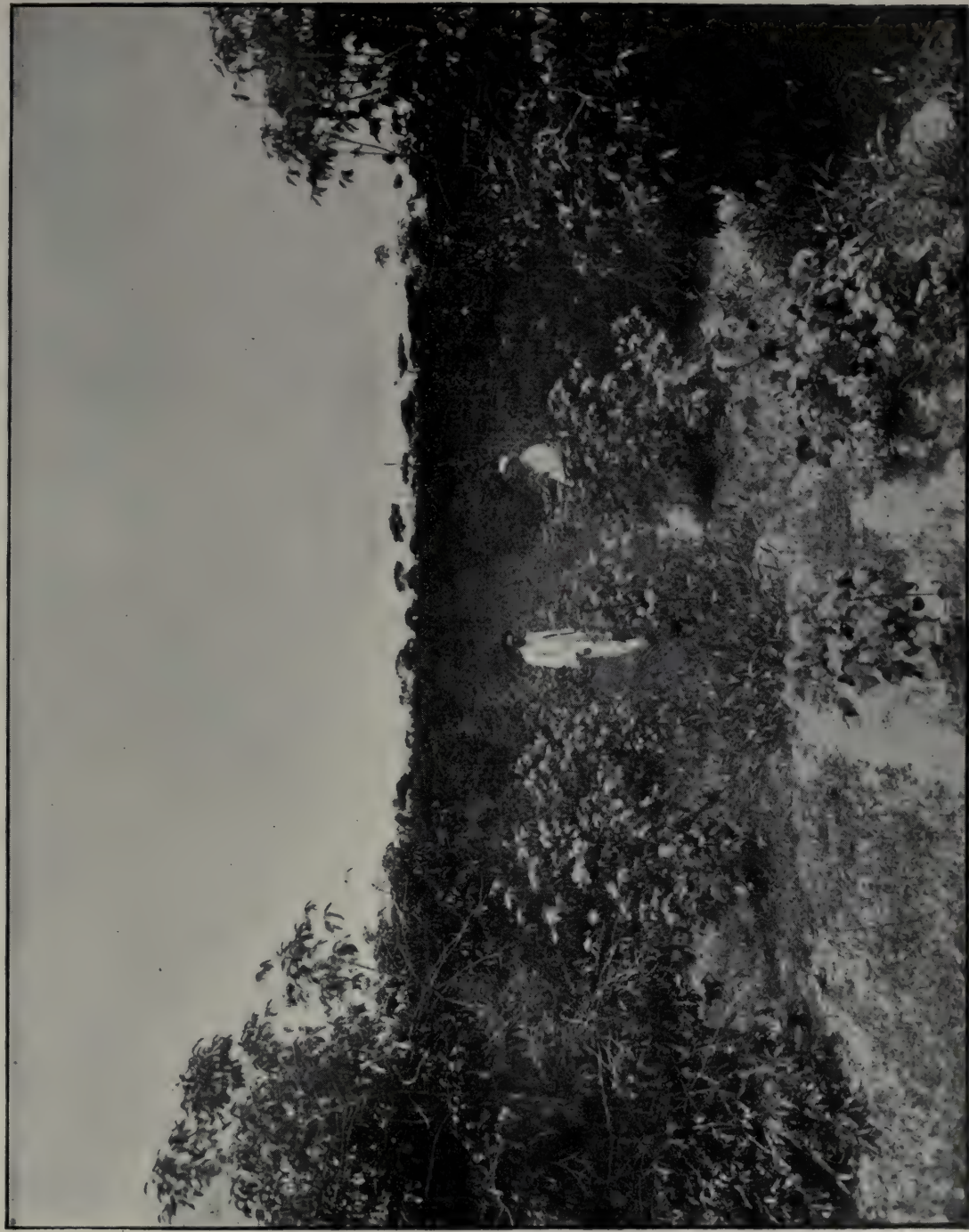


FIG. 1 — Cotton and coffee plantation in the State of San Paulo.



FIG. 2. — New cotton plantation in the State of San Paulo.

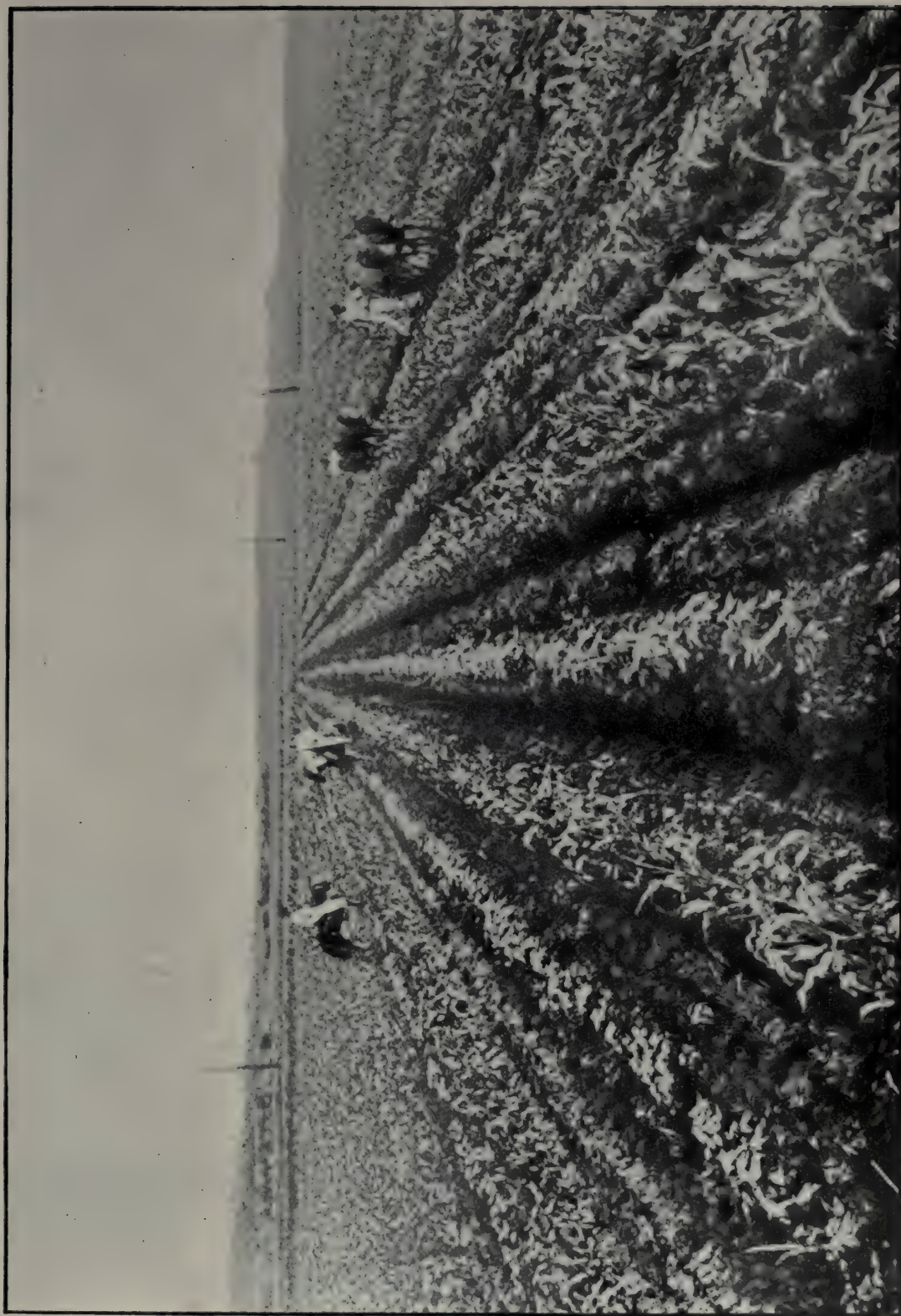


FIG. 3. — New maize plantation in the State of San Paulo.



FIG. 4. — Maize plantation in the State of San Paulo at the period of full maturity.



FIG. 5. — Tobacco plantation in the State of San Paulo.

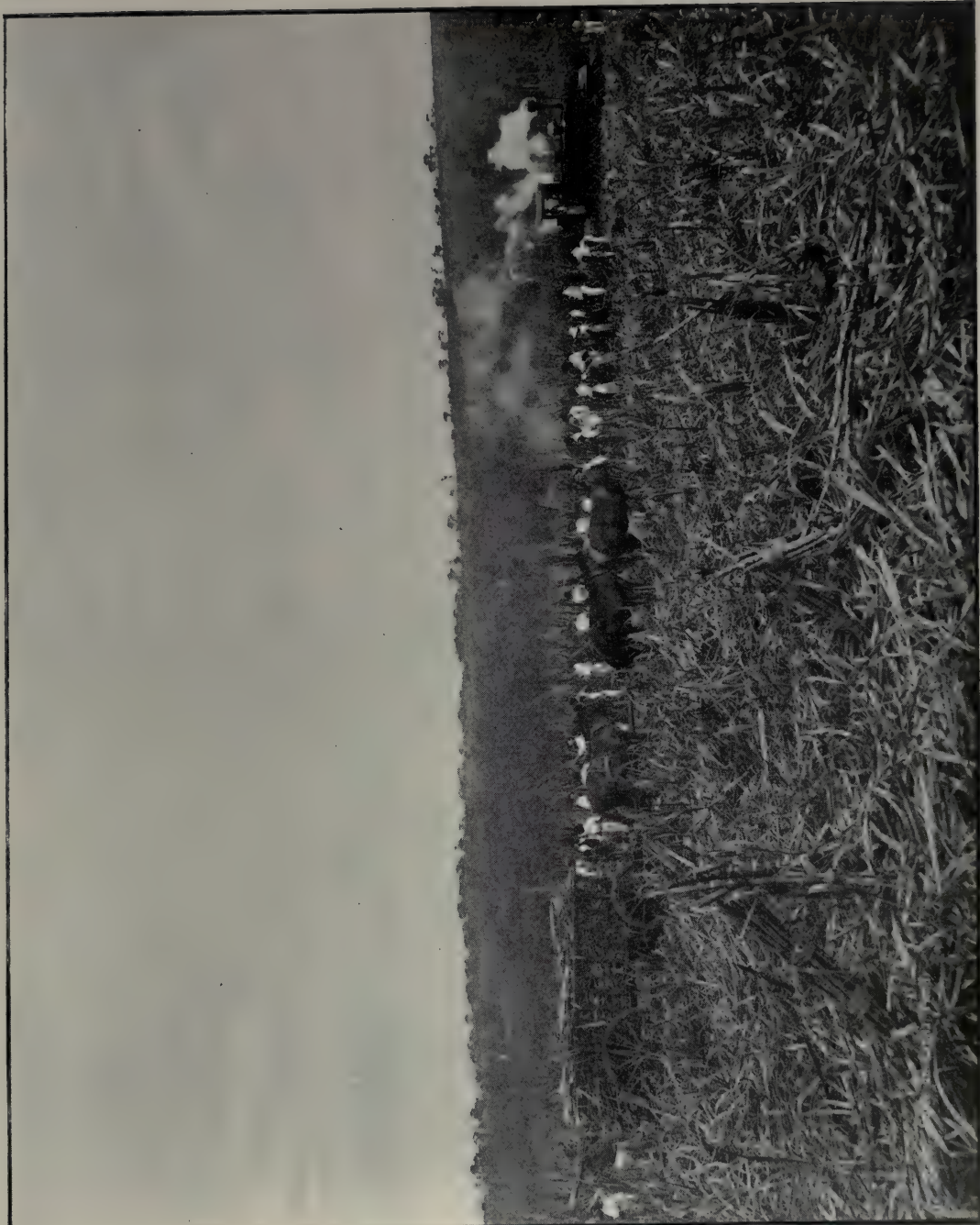


FIG. 6. — Field of sugar-cane in the State of San Paulo. Gathering the crop.



FIG. 7. — Vineyard in the State of San Paulo.

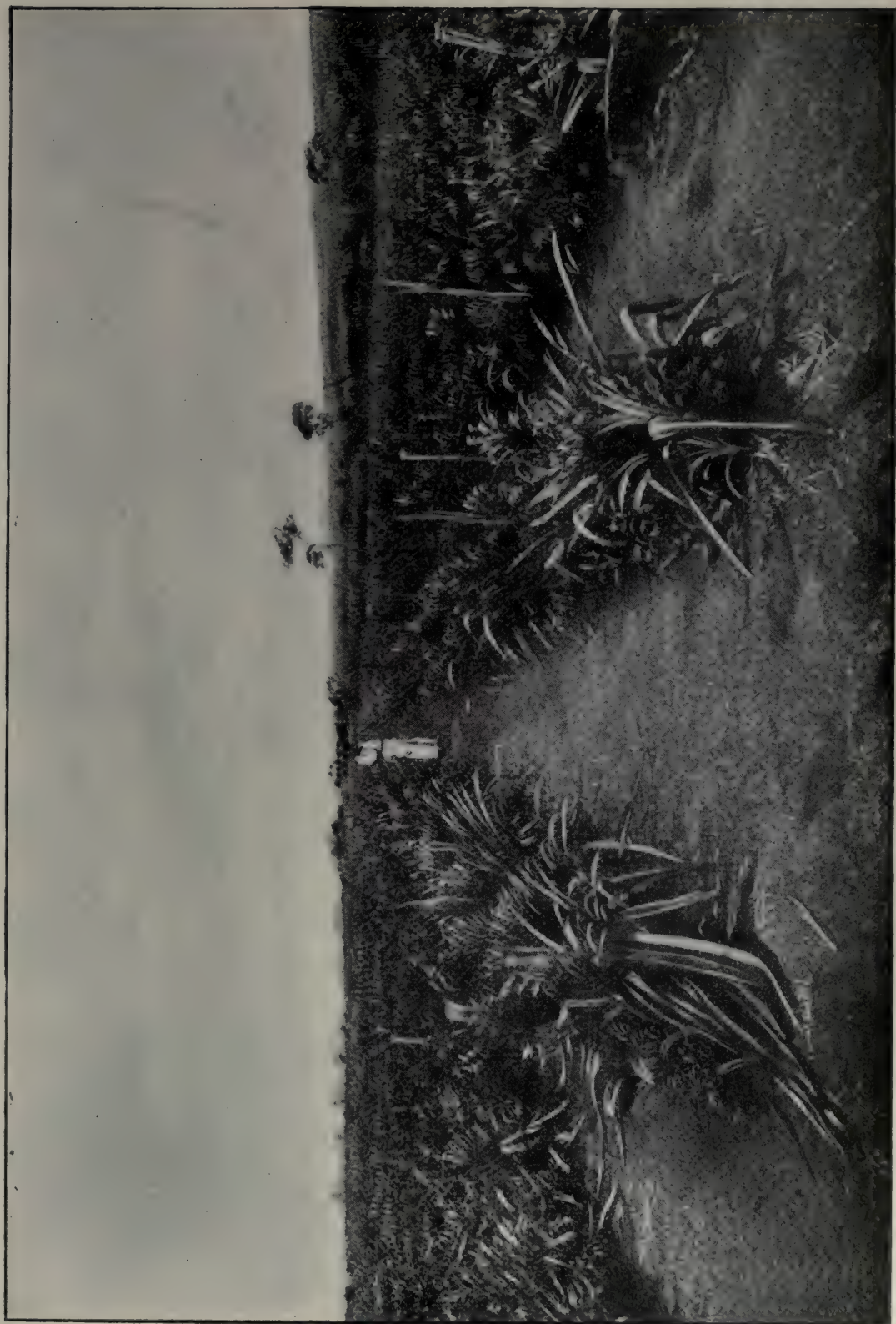


FIG. 8. — Pine apple plantation in the State of São Paulo



FIG. 9. — Banana trees in the State of San Paulo.



FIG. 10 — Banana trees and meadows on a fazenda in the State of São Paulo.

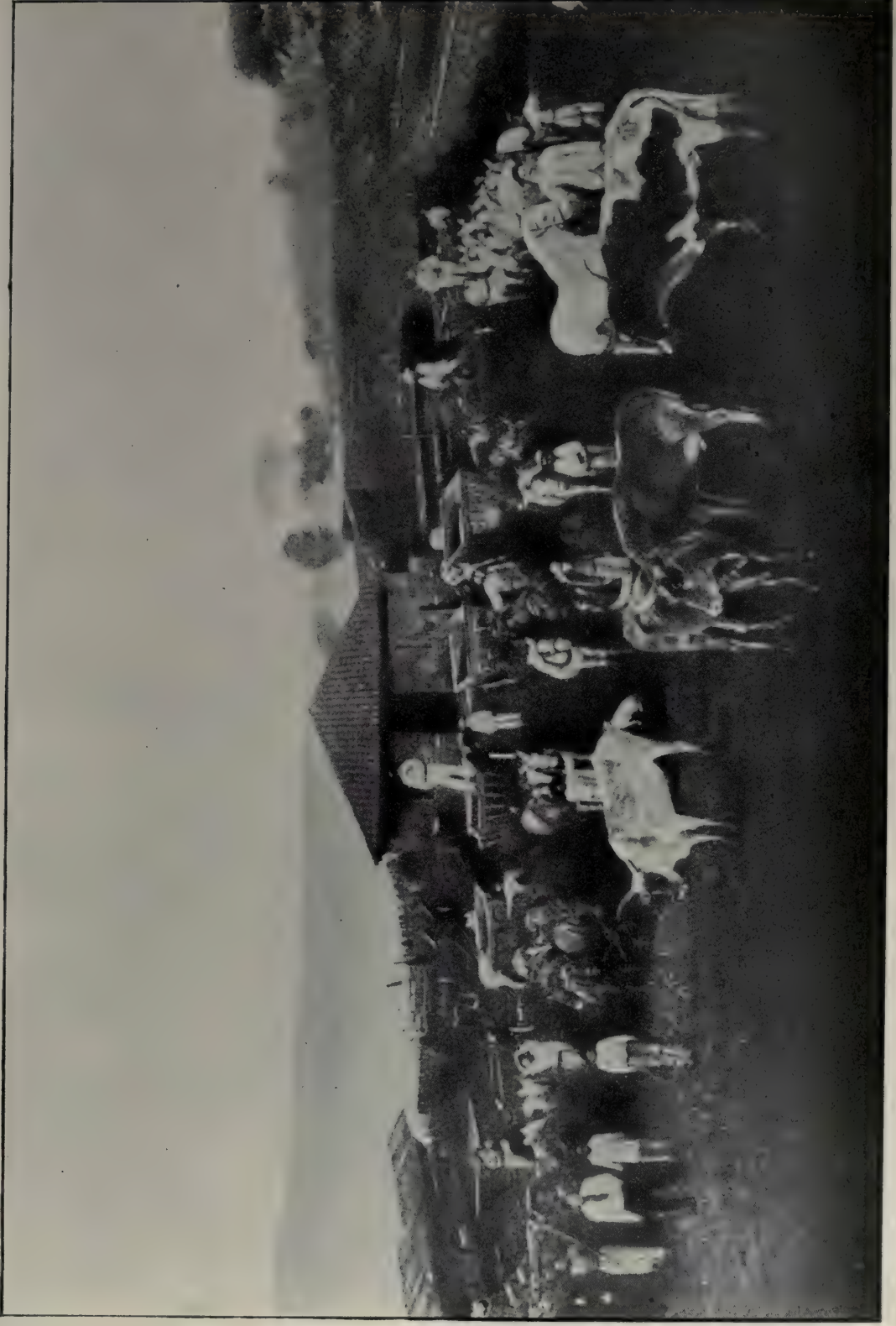


FIG. 11. — Cattle on a farm in the State of San Paulo.

III. — PORTRAITS
OF SOME EMINENT BRAZILIANS



FIG. 1.

His Excellency Dr JORGE TIBIRIÇA
President of the State of San Paulo.

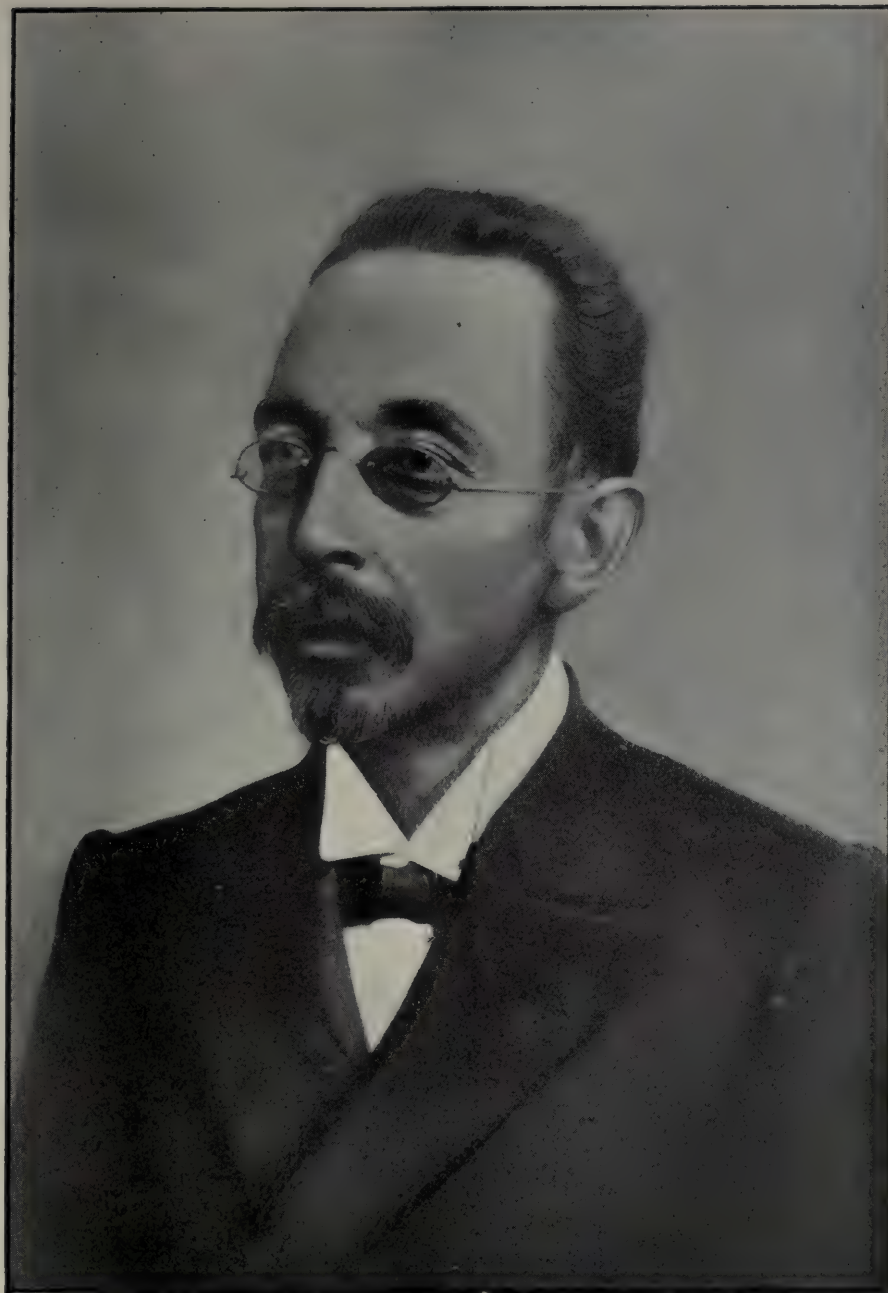


FIG. 2.

His Excellency Dr FRANCISCO ANTONIO DE SALES
President of the State of Minas Geraes.



FIG. 3.

His Excellency Dr NILO PEÇANHA
Vice-President of Brazil ; ex-President of the State of Rio de Janeiro.

F. RAMOS. The valorisation of coffee.

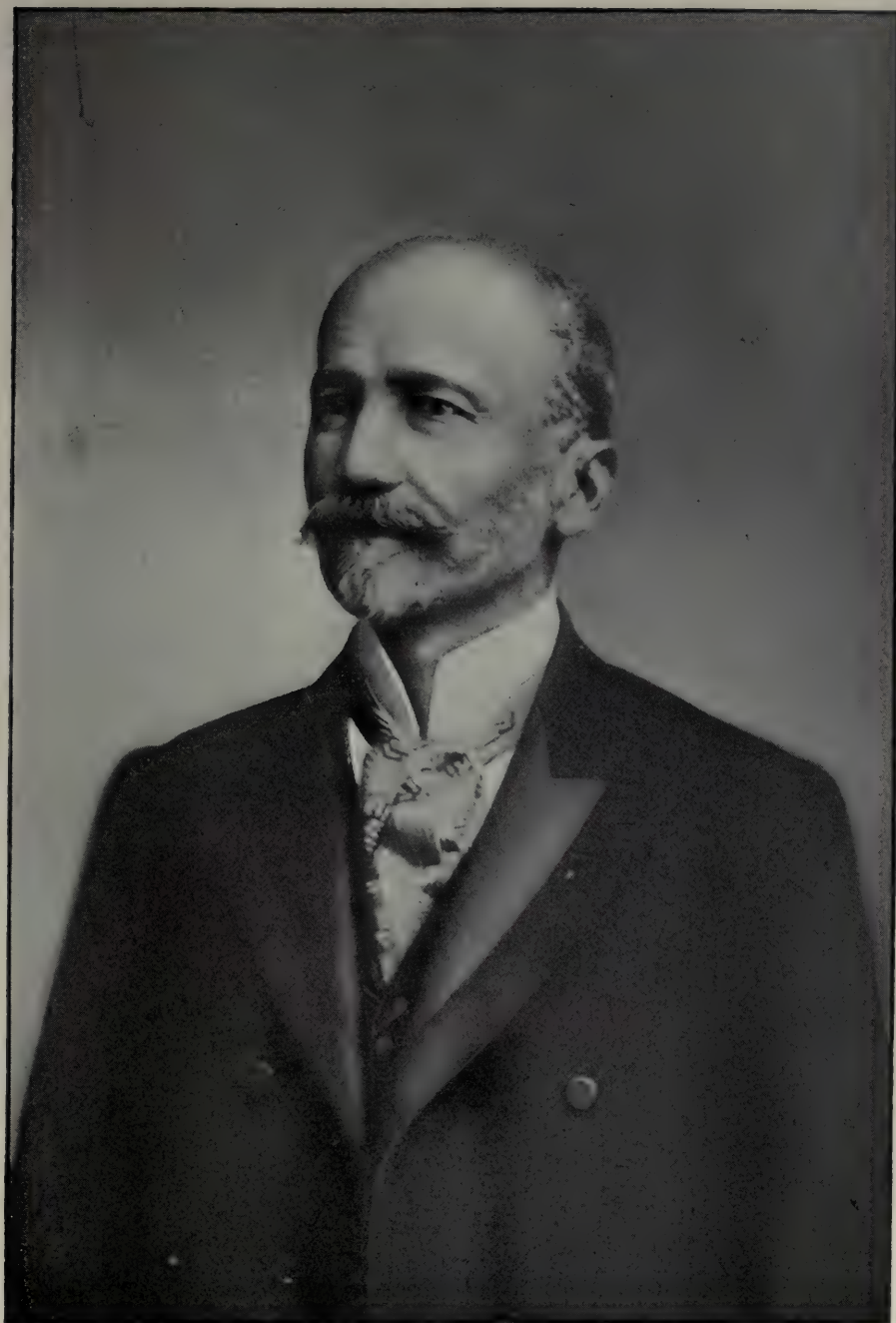


FIG. 4.

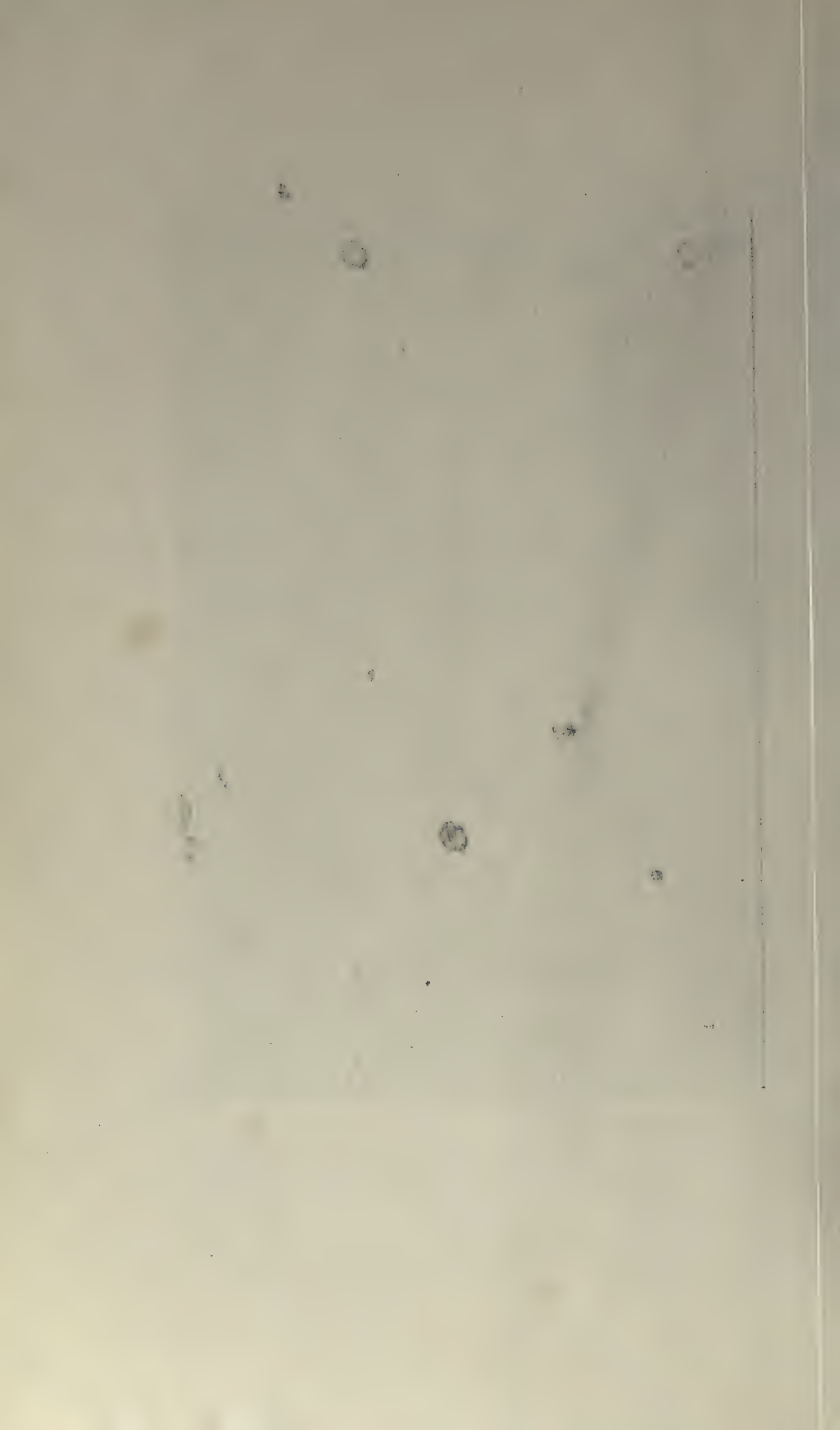
Dr ALBUQUERQUE LINS
Financial Secretary of the State of San Paulo.

F. RAMOS. The valorisation of coffee.



FIG. 5.

Dr DAVID CAMPISTA
Financial Minister of the United-States of Brazil.



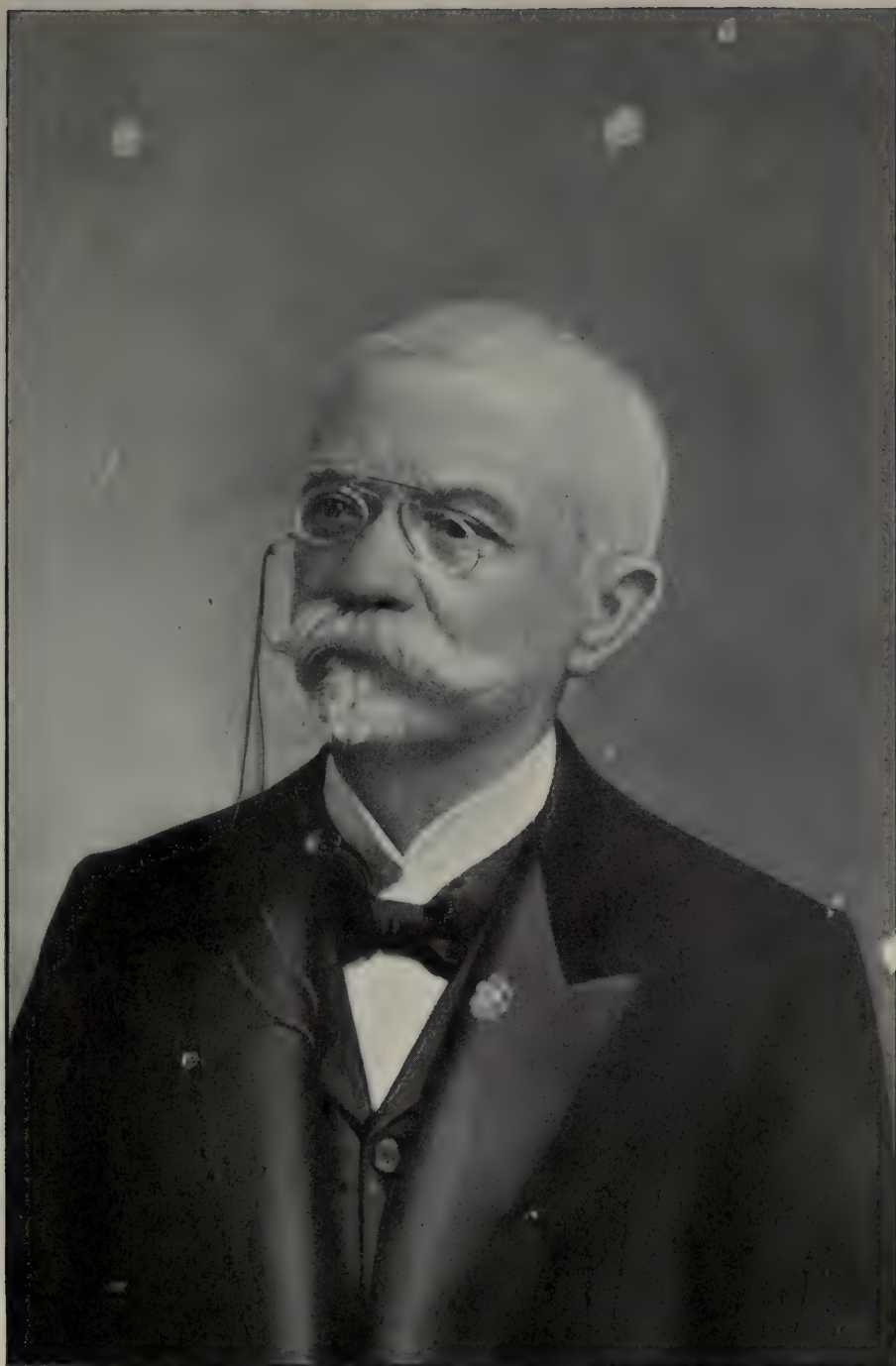


FIG. 6.

His Excellency Dr. AFFONSO AUGUSTO MOREIRA PENNA
President of the United-States of Brazil.

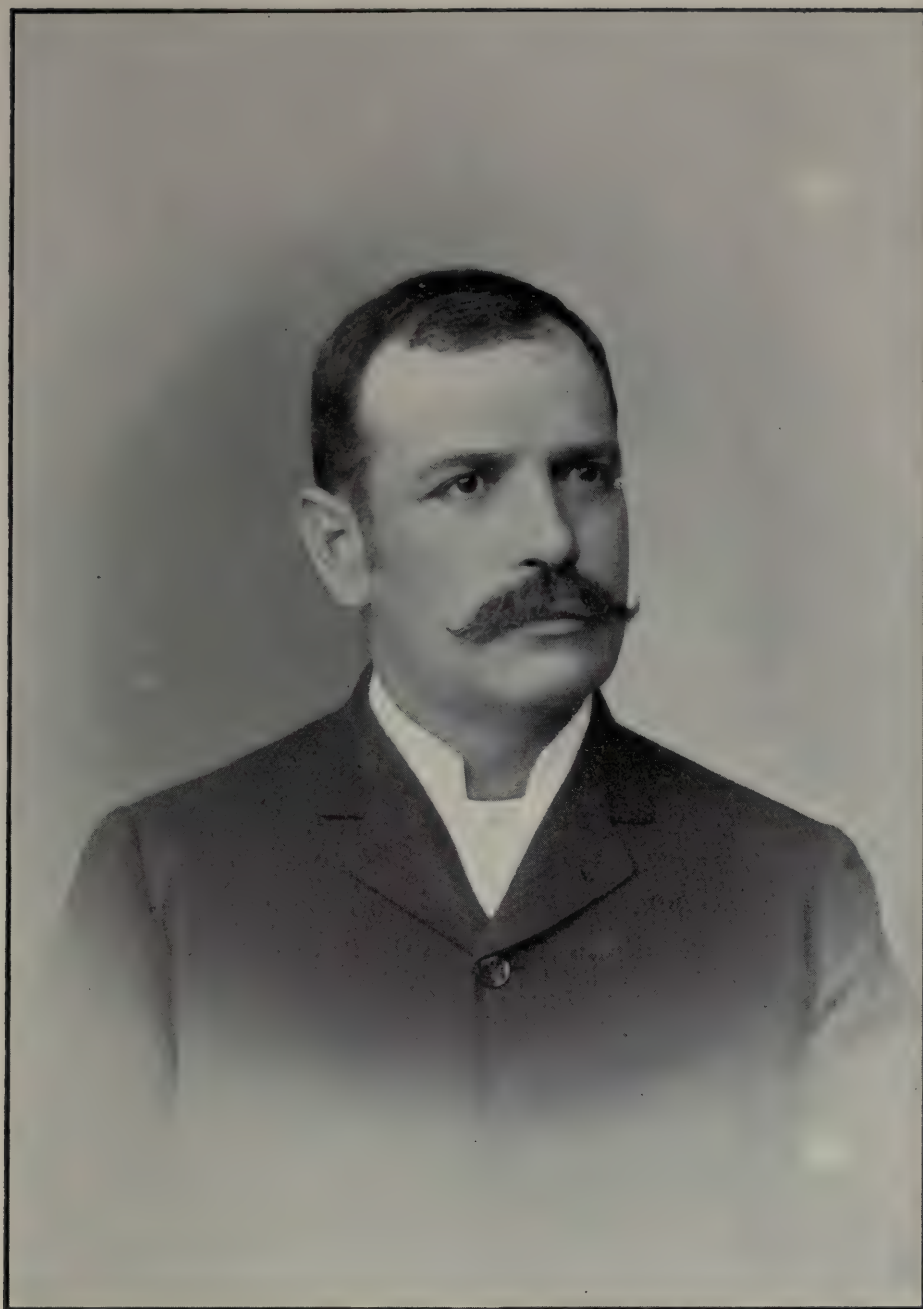


FIG. 7.

Dr CARLOS BOTELHO
Agricultural Secretary of the State of San Paulo.

The coming Crop

Report on the Estimated Coffee Crop for 1907-08. Presented
on the 29th December, 1906, to Dr Carlos J. Botelho,
Secretary of Agriculture for the State of San Paulo.

The undersigned Committee, entrusted with the duty of visiting the principal coffee-bearing districts of the State of San Paulo and estimating the prospective production of this year — as manifested in the chief centres — has the honour to submit to you its definite Report, accompanied by statistics for the future crops and a table demonstrating the probable crop of 1907-08.

The heavy rains of the past year, and the great heat experienced all over the coffee belt of the State of San Paulo were the factors that principally contributed to the large crop of 1906-1907, at present being exported.

All conditions necessary for the full development of vegetable life in a determined temperature prevailed during the coffee season of the year named, and especially during the blossoming period which occurred several times under the influence of cloudy skies, a calm atmosphere and a temperature neither hot nor cold.

In consequence of the large quantity of berries which the trees produced under these favourable circumstances, the trees were rendered extraordinarily weak.

As is known, dry weather at the gathering season — April, May, June and July — that is to say during the winter period, is only favourable to the coffee trees.

It hardens the shoots, which at that season have ceased their development owing to the descent of the sap. During the month of August, on the contrary, when the sap commences to ascend, a lack of rain retards the proper development of the tree. This is the critical period for new shoots, their existence being at every moment threatened, either by the rigour of the temperature or by the lack of moisture.

Exhausted as the trees were by the heavy production of 1906; without leaves to protect the buds which are in course of formation (see illustration on opposite page); and suffering also from the soil-hardening drought, which kept on until the month of November; the trees have no strength to produce the ensuing season, i.e., in 1907. When they should have been in their full period of development, preparing for their yearly evolution, they remained inactive, and scarcely bore any new leaves.

The absence of foliage is in itself a symptom of weakness, and it is noticeable that under such conditions the trees do not fructify.

The leaf is the principal intermediary between the plant and the atmosphere. Like all living bodies, a plant requires numerous and varied substances for its nutrition; some stored in the soil, others disseminated in the air. It obtains nourishment by means of its roots and leaves.

The trees which retained their last year's foliage declared their weakness by the absence of the characteristic leaf-colour which is the external sign of one of the most essential functions of vegetable life. This lack of colour revealed the absence of that essential matter in plant life, chlorophyll; one of whose principal functions is to decompose the carbonic acid in the atmosphere so as to fix or assimilate the carbon, utilising it in the formation of new tissues and to support the old ones.



FIG. 1. — Native coffee tree covered with fruit.

In these circumstances the coming crop was virtually compromised.

Such were the observations we made at the foot of the coffee-tree in the plantations we traversed in different districts. In studying coffee-production problems it would be vain and erroneous to dogmatise after a cursory inspection of the plantations.

During not less than two years it is necessary to keep the trees under regular and close observation, prior to the flowering season, in order that prophecies and forecasts with regard to crops may assume that scientific character which is necessary to inspire confidence to those interested in the cultivation of coffee and its distribution. The absence of such scientific observations would cause grave errors both in the present and in the future.

Everybody is aware that the 1906-07 crop was larger than the average of our exportations, but very few persons were able to state the precise amount of this excess. The impression that there would be a heavy crop was so widespread among those directly interested in the trade — whether at home or abroad — that the exportation of coffee commenced on a «falling market», the *bear* influence being greater than any previously experienced in the history of coffee. If the Government of the State of San Paulo had not undertaken from the very beginning to oppose itself against this state of things prices of coffee would have fallen to a very low level indeed.

However fertile our soil may be ; however laborious our planters ; is it probable that a *record crop* of any special culture will be followed by another? Furthermore, what happy combination of circumstances is necessary to bring about such a result?

After a severe frost and several prolonged periods of drought we saw our production decrease year by year ;

two successive years of heavy rains were necessary to prepare the present crop. During this period climatic conditions were most propitious; the plants were fed abundantly, and in repose. After three slight crops the trees developed most admirably in preparation for the cultural season of 1905-06, the crop being gathered during the year 1906 and is now known in the trade as the 1960-07 crop.

As we know, the life of the planter is full of struggles; it is unusual to reach the gathering-time without having had to overcome difficulties of all sorts; and it is very rare, indeed exceptional, for a planter to commence cropping under such favourable conditions as those of 1906.

With regard to the coming crop, that is to say the one which will be gathered during the year 1907, it may already be affirmed that the rainy season has come very late; and yet we are only in the month of December. Who can foresee what may happen between now and the month of April, an excessively critical period during which the formation of the berries takes place. Fifteen or twenty days of drought would suffice to cause serious damage not only to the fruit on the tree but to the organic life of the plant itself, which from this time must prepare for flowering in September and October 1907, to be cropped in 1908.

It is certain that we are confronted with a probable yield which will be a « record » among the *small* crops of the last ten years. We may moreover practically realise that the prospect for 1908 does not promise much.

One of the most important facts noticed during the crop of 1906-07 was the excessive drought which lasted during nearly the whole of the winter and the spring (1). Work in the plantations (or « fazendas ») was well advan-

(1) The seasons in Brazil do not correspond with those of Belgium and the United Kingdom.

ced and the gathering was carried out under most satisfactory conditions. The coffee reached the market well-prepared and free from «scorched» berries. The planter carried out the gathering and drying of the coffee on the «terreiros» or drying-grounds by continuous dry weather.

Even in the extreme south, for instance at Cerqueira Cesar, Itatinga, etc., where the gathering takes place later, the planters (or «fazendeiros») carried out the operations in dry weather and sent coffees of the finest quality to the market.

The effects of this period of prolonged drought will be felt for some years to come, as well as the heavy rainfall of previous years which brought about the record yield of 1906.

The State of San Paulo may be subdivided into four large coffee districts; firstly, that of the north; secondly, that which is served by the Paulista railway; thirdly, that served by the Mogyana railway, and fourthly, that of the Sorocabana railway.

As can be readily seen from the direction of the railways, from the courses of the large rivers which traverse these districts, by the difference of latitude between the various and most important districts of intensive cultivation, it is necessary to be nearest to truth to conscientiously study the climatology, hydrography and the geology of these districts in order to understand them thoroughly. That which may be truly stated with regard to Rebeirão Preto would be nonsense if applied to Piraju or Taubaté. The climatic conditions which may favour one district, may, on the contrary, prejudice another situated in a totally different latitude.

For these reasons we state — in another portion of our Report — that it is very difficult to meet with a

harmonious combination of circumstances which would produce a crop such as that of 1906.

The *coffee-producing districts*, in agreement with the prosperity of the respective regions, may be divided into maximum, medium and minimum zones.

Among the maximum zone there is Rebeirão Preto and neighbourhood, S. Manuel, Jahu, etc. We have ascertained that in these parts the actual condition of the plantations was not very encouraging, and the outlook does not in any way correspond with the deservedly high reputation of these plantations. In the Mogyana district we noticed the extraordinary circumstance that there was only one single flowering.

If we examine the trees we immediately notice, how small this flowering must have been, for the fruit-clusters do not contain more than three, four or five berries; and rarely nine or ten.

Although they show more vigorous growth, and their sap may be more abundant after the rain, the trees are far from being able to recover from the effects of over-production and drought. The flowering which took place in October was good, but owing to the weakness of the trees which were deprived of elements necessary to vegetable life; only one third of the blossom fructified.

At Villa Bomfin, which may be called the heart of Rebeirão Preto, two plantations scarcely give any hope of an average crop, and even this will yield only half of that of 1906.

The « fazenda of Guatapara » one of the finest in the whole of the State, which during a period of six years produced an average of 120 to 180 arobes per 1000 trees, will in 1907 scarcely furnish more than 50 arobes per 1000 trees. One arobe is equal to 15 kilogrammes.

The Department of Sertãozinho, of all those in the

State, was that which suffered least from the drought. The major part of the coffee trees there have a healthy aspect, especially those in the plantations of Vassoural, St. Martinho, and Agua Vermelha, which are a portion of the Dumont plantation : in the latter the trees are in the very best condition.

This year's production was everywhere moderate and cannot reach more than half of that of 1906.

The other plantations of the same district will produce very little. At Cravinhos the October flowering was insignificant, and only in the new plantations fruit formed ; whereas in the old plantations fructification did not take place at all.

This district is one of those which has suffered most from the heavy production and the drought, and the coming crop will be exceptionally small.

At S. Simão the plantations are in a bad condition and will scarcely give any yield.

Of all the districts where the production is very large Jahú is certainly one of the richest in the whole State.

The extraordinarily large crop of this year has left the plantations in such a state of exhaustion as to require a long period of rest.

At Bicas de Pedras, where the plantations are new, the situation is a little better. But, in the neighbourhood of Pouso Alegre, Boa Vista and principally at Banharão, the plantations are exhausted and need at least two years to recuperate.

Among the maximum districts S. Manuel is the one in which the growth shows the greatest exuberance. The fact that it is situated more to the south exempts it from the effects of the long-continued drought ; but, even in this locality the yield will be a little less than half the

quantity of this year's crop. In 1901 the yield in this department as in the whole district of Sorocabana, was better than that of 1906. (1)

Such then is the situation in all the maximum producing districts, consequently those which are of the most importance in our yearly exportation.

Let us now examine the situation of the medium zones.

In 1906 the medium producing sections had more than an average crop, resulting in the enfeeblement of the coffee trees.

At Campinas the drought lasted until the end of October. This is one of the sections where the yield of 1906 exceeded all expectations, this large production was succeeded by a prolonged drought, completely exhausting the trees.

At Amparo, Pedreira and Serra Negra the situation is identical with that at Campinas.

During the flowering the coffee trees are enfeebled owing to the heavy production and the prolonged drought from which the trees suffer : only one quarter of the blossoms turns into fruit.

At São Carlos, Dourado, Ribeirão Bonito, Annapolis and Descalvado the conditions of the formed berries is in general very bad. The yield will be small owing to adverse circumstances. The lack of production in those districts will make itself felt during not less than two or three years, a delay necessary to the plantations for recuperation.

In these old districts where the production is calculated more by the number of trees than by the production per

(1) It should be noted that the exportation of the 1901 crop was made in two years owing to the bad state of this branch in 1901.

tree this deficit will have a very palpable effect on the total quantity exported by the State.

At Jaboticabal, Araraquara, Mattão, Ribeirãozinho and Bebedouro the prospect is bad.

At Santa Rita do Passa Quatro the plantations are in an unsatisfactory condition, and the coming crop will be insignificant.

At Araras, Pirassununga, Santa Cruz das Palmeiras and Casa Branca the crop will not amount to a third of that of 1906.

Mocóca, owing to the fact that it is situated close to the south of Minas, enjoys a milder climate and has not yet experienced any drought. The rainfall in October and November did much good to the plantations here, which show a fresh and vigorous foliage. The flowering was abundant but had suffered from the cold winds. The yield may be estimated at 32 arobes per 1000 trees.

Among the minimum zones there is the district of Norte where for some years past the plantations have been declining.

We also include Capivary, Itú, Piracicaba, Rio das Pedras, São Pedro, among those localities which will not give more than one half of their ordinary yield : and in some instances the third of their annual crop.

The districts within the zone of Sorocabana, such as Tiété, Botucatú, Avaré, Itatinga, Pirajú, Agudos and Baurú are very promising, and may give a yield of about one half of 1906-07.

In this rapid enumeration of the prospects of these districts we do not find any circumstances favouring a small average production.

All the facts noticed, all the climatic phenomena, sufficiently prove that the crop of 1907-1908 will be small.

Before arriving at our general conclusions, it is our

duty to mention one fact of great importance not only relative to the crop of the current year but, in addition, to those that will follow. We will speak about the pruning of the trees practised on a large scale in all the districts of the State.

There are some fazendeiros who prune carefully and skilfully, but a large number — who cannot command an experienced staff — reduce their plantations to a real wreck. In many cases this has a negative result. The trees are practically destroyed and the crops are endangered for several years. We have seen pruning on certain plantations where the « lopped » branches bore coffee berries.

This devastation, repeated in several plantations, cannot fail to contribute to the diminution of the quantity of coffee available for exportation.

The Committee calls attention to this point because it is a question affecting the State's wealth. It is only just, however, to note down our impressions as to the careful manner in which as a general rule our plantations are conducted.

In the most remote parts of the State we noted that modern tools and implements are being introduced, and more scientific methods of culture are being adopted.

This result is undoubtedly owing to the unvarying and clever propaganda made during the past three years by the Secretary of Agriculture.

We give further on the statistics which we have obtained and controlled in our journey through the coffee-districts of the State.

From this careful study we conclude that, owing to the causes and facts already mentioned, the crop of 1907-08 will be restricted in quantity. We do not anticipate that more than five million bags will be gathered in all the

departments and in certain other neighbouring districts of Minas.

The partial Reports which we have had the honour of presenting to Your Excellency show details of our observations and the facts upon which our estimates have been based. We believe it our duty to recommend the perusal of all these documents, which are rigorously exact, in order to understand the basis upon which we have relied to arrive at the following definite conclusion :

The crop of 1907-08 may be estimated at 4,936.250 or at a maximum of 5,000,000 bags. Anticipation of reduced crop in 1908-09 owing to weakness brought about by the drought and the heavy crop of the present year.

San Paulo, 29th December, 1906.

JOAQUIM LOURENÇO FRAGA.

LUIZ A. ALMEIDA.

NABOR JORDAO.

N. B. — The Santos Chamber of Commerce showed its appreciation of this Report by thanking Mr Luiz A. Almeida, one of its members who was also a member of the Commission entrusted with the estimation of the 1907-08 crop. (See *Bulletin of the Association*).

Estimation of 1907-1908 yield

I. — Paulista District

Municipalities	Total in arobes
Campinas	600.000
Limeira	200.000
Rio Claro et Annapolis	460.000
São Carlos	480.000
Araraquara	330.000
Mattão	350.000
Jaboticabal	250.000
Monte Alto	230.000
Ribeirãozinho	230.000
Bebedouro e Barretos	340.000
Dourado	100.000
Boa Esperança	200.000
Ribeirão Bonito	180.000
Boa Vista das Pedras e Ibitinga	190.000
Dois Corregos	100.000
Mineiros	100.000
Brotas	250.000
Jahú	650.000
Bocaina	280.000
Barery	200.000
Pirassununga e S. C. Conceição	190.000
Santa Rita do P. Quatro	260.000
Descalvado	300.000
Santa Cruz das Palmeiras	230.000
Pitangueiras	250.000
Porto Ferreira	80.000
Araras e Leme	280.000
Pederneiras	80.000
Jundiahy	200.000
Itatiba	150.000
Total of the district	7.740.000

II. — Mogyana District

Municipalities	Total in arobes
Ribeirão Preto	1.260.000
Sertãozinho	650.000
Cravinhos	375.000
S. Simão	350.000
Tambahú e Casa Branca	360.000
Mocóca	300.000
S. José do Rio Pardo	250.000
Caconde e Cajurú	200.000
Santo Antonio da Alegria e Ituverava	100.000
Franca	350.000
Batataes	400.000
Nuporanga	200.000
Jardinópolis	200.000
Mogy-Guassú e Mirim	230.000
Itapira	200.000
Amparo	500.000
Pedreiras	50.000
Serra Negra	150.000
Socorro	140.000
Espirito S. do Pinhal	280.000
São João da Boa Vista	220.000
Total of the district	6.805.000

III. — Sorocabana District

Tieté e Pereiras	260.000
Botucatú	450.000
São Manuel	900.000
Lençóes, Agudos e Baurú	400.000
Tatuhy e Itapetininga	60.000
Itatinga	130.000
Avaré	250.000
Pirajú	240.000
Santa Cruz de Rio Pardo	250.000

Municipalities	Total in arobes
Itú, Cabreúva e Montemór	230.000
São Pedro.	100.000
Fartura	150.000
Capivary e Indaiatuba	270.000
Piracicaba e Rio das Pedras	280.000
Total of the district	3.970.000

IV. — São Paulo Railway District

Bragança	240.000
S. A. da Cachoiera e Nazareth	140.000
Curralinho	50.000
Norte de S. Paulo	300.000
Total of the district	730.000

V. — Minas coffees 500.000

RECAPITULATION

I. — Paulista District	7.740.000
II. — Mogyana District	6.805.000
III. — Sorocabana District	3.970.000
IV. — São Paulo Railway District	730.000
V. — Minas coffees	500.000
Total in arobes of 15 kilos	19.745.000
Total in bags of 60 kilos	4.936.250

APPENDIX

Brazilian Coffee

PRIZES OBTAINED

At the St. Louis Exhibition of 1904, Brazilian coffee was awarded the following prizes :

GRANDS PRIX	5
GOLD MEDALS	62
SILVER MEDALS.	70
BRONZE MEDALS	91
	<hr/>
TOTAL	228



FIG. 1. — Examining samples of Brazilian Coffee in the Brazilian Pavilion of the St. Louis Exhibition in 1904.

Statistics of the State of San Paulo

I. — Coffee production

The production of coffee in the State of San Paulo during the last six years, in round figures, was as follows :

For the year	1901-1902	12.500.000 bags.
»	» 1902-1903	5.800.000 »
»	» 1903-1904	6.400.000 »
»	» 1904-1905	7.450.000 »
»	» 1905-1906	6.980.000 »
»	» 1906-1907 ⁽¹⁾	14.000.000 »

II. — Exports

The exports were as follows :

DATE	BAGS	VALUE IN FRANCS
1901	9.613.080	401.128.000
1902	8.714.182	334.545.000
1903	7.994.395	298.788.000
1904	6.571.509	322.121.000
1905	7.453.752	359.394.000
1906 ⁽²⁾	10.166.257	504.025.000

⁽¹⁾ Estimation.

⁽²⁾ *Brazilian Review* of 29-1-07.

The additional charge of 3 francs during the first two months of its application, i. e. in December and January last, produced the following amounts :

December 1906	3.300.000	francs
January 1907	2.300.000	»
Total (2 months)	5.600.000	francs

See *Boletim da Associação Commercial de Santos*, N^o 147 and 152.

If this surcharge had been applied during the preceding six years, the amounts produced would have been, in round figures, as follows :

For 1901	Frs	28.800.000
» 1902	»	26.100 000
» 1903	»	24.000.000
» 1904	»	19.500.000
» 1905	»	22.300.000
» 1906	»	30.300.000
Total	Frs	151.000.000

The average production of the three coffee producing States, San Paulo, Minas and Rio being about 11 1/2 million bags, the surtax would have produced about 210.000.000 francs during the same period.

III. — Finance

From the report presented to Mr J. Tibiriça, President of the State of San Paulo, by Mr Albuquerque Lins, Secretary of Finance, we extract the following figures (rate of exchange Fr. 1.70 per 1000 Reis).

Balance at the disposal of the State (1905) :

In the Treasury	Frs 3.590.700
In Foreign Banks	Frs 23.883.900
Total	<u>Frs 27.474.600</u>

In addition the State had to its credit
the sum of Frs 38.611.250
of which about » 12.167.200 debt
of the Federal Union, and » 26.444.050 debt
of the departments, loans granted to them by the State
of San Paulo for their public works.

IV. — Real Estate and Debt

The real estate belonging to the State of San Paulo is
valued at (rate of exchange Fr. 1.70 per 1000 Reis) :

Sorocabana Railway	Frs 107.914.645
Other properties	» 136.000.000
Total	<u>Frs 243.914.645</u>

It must be noticed that the Sorocabana Railway pro-
duced in 1905 (net income) Frs 6.052.000
» 1906 » » 9.800.000

The external debt of the State of San Paulo, including
that of the Sorocabana Railway, was £ 6.303.200, the
payment of interest and the redemption of bonds being
regulated in a very careful manner.

The internal consolidated debt does not exceed
£ 200.000.

V. — Balance Sheet

The balance sheet of the State of San Paulo for the year 1905 is as follows :

Réceipts	Frs 114.489.200
Expenditure	» 82.248.500
Balance	Frs 32.240.700

It is necessary to remark that included in the expenditure are certain public works which will later on increase the revenue of the State, representing in reality an augmentation of capital. Such for instance is the expense of increasing the San Paulo water pipes, its revenue therefrom belonging to the State.

VI. — Brazilian Exports and Imports

In conclusion we herewith add the statistics of Brazilian exports and imports during the three last years, in round figures (exchange Frs 1.70 per 1000 Reis) ; as well as the amount at the disposal of the Brazilian Treasury on the 15th November 1906.

Exports :

1904	1905	1906
985.975.000	1.116.345.000	1.350.000.000

Totals of Brazilian Imports and Exports.

1904	1905	1906
1.653.985.000 ⁽¹⁾	1.932.585.000	2.500.000.000 ⁽²⁾

The amounts at the disposal of the Brazilian Treasury, in gold, short-dated bills and consols, deposited either in the Treasury of Brazil or in English banks were as follows :

£ 9.600.700	Frs 240.017.500
Notes (Treasury and Banks) »	94.945.000
Total	Frs 335.062.500 ⁽³⁾

In addition to this sum it must be stated that the Treasury has already received — within about two months — more than 100.000.000 francs for its Conversion Funds.

VII. — Share of the State of San Paulo in the export and import trade of Brazil

Finally, it appears interesting to us to show the position held by the State of San Paulo in the Brazilian exports and imports, and in the following table we indicate the percentages in the entire commerce of Brazil

⁽¹⁾ See the « *Economist Européen* », N^o 785.

⁽²⁾ Estimation.

⁽³⁾ See « *Le Brésil* » N^o 1144.

Share of San Paulo in Brazilian exports and imports

YEARS	IMPORTS	EXPORTS
1901	20,40 %	40,— %
1902	19,33 »	38,12 »
1903	17,25 »	33,— »
1904	17,25 »	32,— »
1905	17,25 »	32,50 »
1906	20,— »	40,— »

Between 1902 and 1906 the State of San Paulo recorded :

An import value of 25.716.840 £

An export value of 72.812.803 £

showing a balance in favour of the State 47.095.963 £
that is to say, a yearly average of £ 9.000.000 or 225
million francs.

Coffee represents rather more than fifty per cent of
Brazilian exports. This shows clearly that the question
of coffee not alone affects the producing States but is one
of national interest.

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(*) This photograph was kindly lent by M. Misson; it was reproduced in the monthly Journal of the Gembloux Association of Engineers, graduates of the « Institut agricole de l'Etat » of Gembloux in Belgium.

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(*) M. Misson. — *Annales de Gembloux*.

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Printed by J.-E. BUSCHMANN. 15, Rempart de la Porte du Rhin,
Antwerp (Belgium).

Illustrations by Messrs VAN DER VEN & SANO, rue Montebello, 2¹
Antwerp.

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